

INSTRUCTIONAL SKILLS
AND
RELATED INSTRUCTIONAL MATERIALS
FOR THE CENTRES OF
NON-FORMAL EDUCATION

--An Eric Project Report

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PREFACE

Teaching is considered to be a complex but important component of any instructional programme both in formal and Non-formal settings. Numerous studies have been undertaken in this area in formal education since Flanders (*Interaction Analysis*, 1970) and Allen and Ryan (*Microteaching*, 1969) published their well known works. These approaches have been extensively used in researches conducted on the regular school going children, mostly at the secondary school level. Non-formal education (NFE) has been introduced in our country as an alternative and supportive approach for the education of out-of-school children from 1974 onwards in order to achieve the target of universalization of elementary education (UEE). Since then various aspects of the NFE approach including its philosophy and objectives, curriculum, instructional materials, evaluation and training of NFE centre teachers have been studied through developmental and research projects. But the instructional aspect of the NFE programmes, especially the instructional skills that are required to be developed among the NFE Centre teachers was not taken up with appropriate methodology of research and tools.

It is often pointed out that un-attractive curriculum and methods of teaching followed by the teachers force the child to drop-out at the elementary school stage. Realising the need of research in instructional methods at this crucial stage of education, a project titled "identification of instructional skills and development of related instructional materials for the Centres of NFE" was taken up in 1982 by the RCE, Bhopal with the financial support of the ERIC.

Any study on skill acquisition is to be done in stages. The first stage in the present project was the identification of instructional skills relevant to the NFE which would be some what different from those required by the formal school teachers. The difficulty which we faced in this process was that the NFE Centre teachers had before them a model of formal system which tended to interfere with their thinking. The skills we identified with the help of Assistant District Inspector of Schools, staff of Basic Training Institutes, teachers of primary schools and NFE centres in order of priority were : organisational skills; elementary reading, writing and arithmetic skills; taking cooperation of the community; and skill of effective communication which included emotional reading of the text and the skill of narration such as storytelling. At the second stage, these skills were broken down into components and taught by the staff with the help of material developed under the project. At the third stage, evaluation of the skill was done over a number of components for the least and most effective teachers of Rajgarh (N=15) and Bhopal (N=20)

Districts of M. P. This enabled us to further refine and retain finally the components of the instructional skills included for the present study. The findings on each of the instructional skills are presented in this report. In a research report of this type, one often tends to get lost in the statistical data but proper methodology of research is the requirement of any study conducted on scientific lines. Obviously, certain shortcomings are likely to be noticed, suggestions for improvement will be most welcome.

We acknowledge with thanks the financial support given by the ERIC for the completion of this study. The faculty members, who formed the project team, took all the pains for the completion of this project. Academic assistance to the project was provided by Junior Project Fellows-Smt. Laxmi Krishnan, Dr. P. L. Kirkire and Dr. S. K. Sharma who worked at various stages of the Project. Their contribution is also appreciated. We also thank the Principal and staff of Govt. B. T. I., Rajgarh; Shri H. N. S. Parmar, ADIS, Narsingarh; Shri S. D. Bhartare, ADIS, Kurawar, and Dr. I. D. Gupta, Lecturer in Education, at the various stages of this study.

Bhopal
March 29th, 1986

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Our Other Publications on Non-formal Education

1. **Non-formal Education Centres—A Report** —1980
2. **“कब, क्या, कैसे करें”— Supplementary Reading Material (in Hindi)** —1982
3. **“सागर दीप”—Supplementary Reading Material (Published in Collaboration with State Institute of Education, Maharashtra, Pune (in Marathi)** —1983
4. **Tools and Techniques to Assess Performance of Children of Non-Formal Education Centres and Primary Schools (Test items, Questionnaires, Opinionnaires and Rating Scales)** —1984
5. **Three years of Non-formal Education in the Rural Areas of Western Region—A Report** —1985

CHAPTER I

INTRODUCTION

1.1 Non-formal Education : A Complementary System to Formal Education

Non-formal education is emerging as an alternative mode of education for achieving the target of universalisation of elementary education in this decade. Because about six out of ten school going children in our country do not complete their primary education and more than seven in every ten of those who complete the primary stage drop out at the middle school level. It is estimated that out of every 100 children enrolled at primary schools only 12 students complete their high school education. But there is encouraging trend as well which is evident from a research study conducted on children of Rajgarh District of Madhya Pradesh. It has been found that there is decline in the drop out rate.

Such a drop-out rate indicates, among other things, inadequacies of the current school education system. It underlies the need for an alternative but effective mode of education. Non-Formal Education (NFE) has been thought of as an alternative mode to give another chance to the drop-outs. The basic assumption here is that many of those who drop out of schools do so because the available educational facilities and other infrastructures are rather inadequate and unsuitable to their needs. The NFE system also seeks to provide literacy and numeracy to those who did not have an opportunity to go to school or could not avail the schooling facility. Another objective of NFE is to prevent neoliterates from lapsing into illiteracy.

The government is committed for the universalisation of primary education for the children who are in the age group of 6-14 years and functional literacy for the adults who are in the age group of 15-35. At present about 83 per cent of children in the age group of 6-11 years and only about 37 per cent of children in the age group of 11-14 go to school. Educational wastage at the primary school level is high, particularly in rural, tribal and urban slums and also in case of rural girls. Educational wastage can be attributed to many factors—economic, social and cultural. A major problem is to relate education to socio-economic development of the children and the community as a whole. Several programmes have been formulated for the universalisation of primary education.

A programme of teacher orientation has been launched by the Central and State Governments to motivate the teachers and develop in them the necessary expertise to make the teaching-learning process more effective so as to bring about educational change

by relating it to the socio-economic development. This will facilitate the programme of universalisation of elementary education.

The NFE system is expected to overcome the rigidities and constraints of the formal school system. Thus the drop-outs, or those who have not joined school, will be inclined to pursue their studies at such hours when they are free from domestic work. Our experience indicates that they require a part-time condensed, though equivalent, course that has a bearing on the socio-economic and educational needs of the drop-outs. For example, at one NFE centre in Gujarat a good number of children were also working part-time at an "Ambar-Chakra" centre where they weaved cloth and got employment. They cannot be admitted in a particular class of a formal school because of the differences in the level of achievement and timings of the formal schools.

1.2. Salient Features of the NFE Programme

The magnitude of the task of providing education to all at elementary level without adequate resources are among the reasons for the non-accomplishment of the task of bringing all children into the fold of formal education. The Government gave a high priority for the universalisation of elementary education in the Sixth Five Year Plan. For the Seventh Plan, the Conference of the State Education Ministers and Secretaries held in May 1984 at New Delhi recommended that "the formal school system, the non-formal system and the adult education system should be integrated both in terms of teacher utilization and education and administrative supervision." It is increasingly being felt that it is not possible to achieve the desired goal through the system of formal education and alternative strategies have to be worked out to provide education to the non-school going children. This has also been stressed in the National Curriculum for primary and secondary education (NCERT 1986)

Earlier the Union Education Minister, in April 1977, announced in Parliament that universal literacy was expected to be achieved in the country, within a specified period. The main components of the policy pertained to universalisation of elementary education and removing illiteracy of adults in the age group of 15-35. With regard to NFE, the Planning Commission set up a working group for the universalisation of elementary education in September 1977. An interim report, submitted by the group in February 1978, pointed out that 452 lakhs children would have to be brought under the school system by 1982-83 to attain the goal of universalisation of elementary education.

The working group further suggested that every child in the 6-14 age group should attend school on a full time basis. By 1977-78, 898 lakhs of children were to be enrolled in the elementary schools in Classes I to VIII. A large number of them belonged to the weaker sections, including the scheduled castes, scheduled tribes, landless agricultural labourers and urban slum dwellers.

Poor academic conditions keep a majority of these children away from school; particularly those from poor families where the children are required to help to supplement the parental income and to help their mothers in household chores. Such children may be provided Non-formal schooling facilities, with timings for studies suited to the convenience of children of these families.

The NFE system is also devised in such a way that it covers those children who have dropped out from the formal schools. It will be worthwhile to undertake a study to identify the causes of high drop-out rate and the circumstances in which children give up schooling. This will help in evolving a sound system of Non-formal schooling. The working group suggested that 160 lakhs of non-enrolled children should be covered under the NFE system. Of these, 120 lakhs were to be at the primary stage in (Classes I to V) and 40 lakhs at the middle stage (Classes VI to VIII). The working group also identified nine educationally backward states, namely, Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. The number of non-enrolled children in these states are disproportionately large. These states account for more than 75 percent of the total number of non-enrolled children in the whole of the country. Now the educationally backward districts in the developed states have also been included in the NFE programmes.

The basic strategy for the universalisation of elementary education in all the states and union territories has two main components, namely, (i) expansion and improvement of formal schooling, with provision of schools covering the needs of all habitations of the country, including sparsely populated areas; and (ii) the provision of a massive programme of NFE covering the needs of various target groups and backward areas of the states and union territories. A common feature of both the components is the need for overhauling the curriculum, making it meaningful and relevant to the life situations of children in various age groups.

The working group on universalisation of elementary education, before finalising its report, considered the report of a sub-group on NFE for children in the elementary age group. The sub-group identified three target groups of children for the Non-formal channel:

- (i) Children of the weaker sections who had never gone to schools or dropped out after joining the schools;
- (ii) Girls in the age group of 6-14 who are not attracted by the existing programmes of education being offered by the elementary schools. These girls may generally not be interested in joining the formal school at any stage. Thus they would need an educational programme tailored to their requirements as housewives, mothers and citizens; and
- (iii) Boys who are engaged in trades such as carpentry, weaving, pottery etc. These children need a part-time programme of general education,

The programme of NFE for children in the first category could be the one which has come to be known as "M.P. Model of NFE". In this model the entire curriculum of 5 years' of primary stage is condensed into a 2 years' curriculum based on 18 graded units. Children in the age group of 9-11 are offered this curriculum at the NFE centres in the state of M. P. Teachers are paid a small monthly honorarium and incentive depending on the number of successful students in the Class V & VIII Board Examination.

NFE in India has been visualised as education for development. It has to cater to social and personal development of children which might contribute to their own as well as that of the country. It should improve the health and hygiene of the people and may also create conditions for part-time employment. It should be mass-oriented and mass based. It has to derive its resources and inspiration from the local community. It is to be more rural based; and development of certain skills, required in day-to-day functioning, are also needed. Literacy and numeracy are its essential components.

In the Commonwealth Conference on NFE held at New Delhi in 1979, Dr. M. S. Adhisheshiah, identified three salient features of a NFE programme namely, (1) Content has to be mainly generative; (2) Vocational training programmes for those drop-outs who are employed to be conceived as a part of developmental system; and (3) Peoples' power to change our society. Gardiner (Commonwealth Conference, New Delhi, 1979) emphasized the removal of poverty as the main aim. The NFE system, according to him, is to be viewed as a means to stimulate political and social awareness and also of broadening of minds and understanding of life. The conference further recommended that NFE should be a means to motivate the community. The NFE should be fully supported and supplemented by teaching aids, mass media and local libraries. The NFE programmes should bring out interactions between the Formal and Non-formal. Establishing linkages between formal and non-formal education is one of the important concerns of NFE workers at present. According to Milla McLachlan et. al. (1983) linkage can occur at the most basic level, firstly through the sharing of facilities. School buildings can be used for regular formal school programmes in the morning and for primary school drop-outs in the afternoon. Likewise, other buildings in the community such as a community centre or a place of worship can be used both for the formal and NFE programmes. Formal and NFE systems can also be linked through the sharing of personnel. It is also felt that meaningful linkage can be established if teachers share their expertise in NFE settings; if parents and community members are recognised as educators and involved in educational activities; and if educators working in NFE, and also health workers and extension agents are called upon to teach in a school.

In short, the NFE programmes have been viewed as work-oriented, community-based, technology-centred and are expected to foster individualised learning opportunities, attitude reinforcements, civic sense, literacy, numeracy and cultural growth,

1.3. Objectives of the NFE Programmes

The broad objectives of the NFE scheme in India include the following :

- (i) To help the educationally backward states and districts in developing and implementing programmes of NFE for children of the age group of 9-14 so as to enable them to cover the huge size of non-enrolled and non-attending children under the school system;
- (ii) To help them in developing institutional structures at various levels not only for the qualitative expansion but also for the improvement of the quality of education;
- (iii) To help them in developing in normal and local specific curriculum and instructional materials so that education at the elementary level is more meaningful and relevant to the life situations and needs of the children; and
- (iv) To help them improving the teacher competence at the elementary level, even in the remotest areas of the country.

The entire programme is to be implemented through the normal administrative machinery already available at the centre and in the states, but with suitable strengthening, wherever required. For example, in Madhya Pradesh a Coordinator at the District level, a Supervisor, Gram Sevak and Sevika at the block level and the field teachers have been appointed at the village level. The goals and the objectives of the NFE programmes were sought to be realized to some extent by the NCERT by organizing NFE centres on experimental basis in the country through the Regional Colleges of Education and field offices located in different states. These goals have been identified after studying and reviewing the suggestions given in the beginning of this project. The main purpose of running this project was to gain expertise in the area of NFE, to develop curriculum and instructional materials and help the children acquiring competences in their own professions and join the formal schools, wherever possible.

The State Governments have also started their own programmes with the assistance of Central Government. The NFE programme started by the State of Madhya Pradesh has three major objectives :

- (i) to make elementary education facilities available to children in the age group of 9-14 who have either not been able to attend schools or have dropped out;
- (ii) to enable those children to seek entry into the formal system at multiple points or to acquire functional education to their needs; and
- (iii) to provide facilities of further education to those who have passed primary stage.

The specific objectives of instruction at NFE centres have been identified as follows :

- 1. To impart knowledge of language, arithmetic, social studies, and general science for a healthy and happy living;

2. To develop ability to understand, to utilise and to preserve environment;
3. To develop proper attitudes towards work;
4. To impart information about the Government's plans and the various efforts made for the development of the country;
5. To cultivate proper attitude for the utilisation of leisure time;
6. To develop ability to cope up with the progressive circumstances in the country;
7. To develop potential abilities to solve personal and social problems in the current context; and
8. To provide opportunities to create social consciousness about self-respect and national dignity.

1.4. Non-formal Education in Madhya Pradesh

The State of Madhya Pradesh is one of the first states in the country in initiating the programme of Non-formal Education for children in the age group of 9-14. This state is also one of the nine educationally backward states. These states have more than one fourth of the nonenrolled children in the country. In spite of the efforts made towards universalisation of education, such as providing free education upto the middle school level, opening primary schools within the radius of 2 to 3 kilometers, supplying text books and school uniforms free of cost to the pupils of weaker sections only 63 percent of children of the age group 6-11 and 34 per cent of the age group 11-14 have so far been brought to schools. 37 per cent children of age group 6-11 are still in the state of deprivation. Evidently such children belong to economically weaker sections of the society, namely farmers, labourers and tribals. Most of the deprived children have to assist their parents in earning their livelihood. Illiteracy and poverty prevails among the scheduled castes and scheduled tribes more than any other castes in the state. The same condition is found to be prevailing as far as girls' education is concerned. Only 15 percent of the women are literate in the state.

The M. P. model of NFE has the following characteristics :

1. It enables the drop-outs to cover five years' primary syllabus in two years;
2. Under this system, school hours and holidays are decided according to the convenience of pupils and local conditions. Consequently, both earning and learning go hand in hand;
3. An NFE centre does not need a separate building. It runs in the school building or at any public place or a place spared by the residents of the village. Teaching aids already available in the local schools or Basic Training Institutes (BTIs) can be freely used by these centres.

4. The local teacher or any other local competent person is assigned the job of teaching pupils at the NFE centres. At Non-formal Centres, attached to the BTIs, this task is assigned to pupil-teachers and the amount of remuneration allotted for the payment to teachers is utilized in the development of the centre.

5. Restriction regarding admission and attendance that characterize formal education are not imposed. The teacher at a NFE centre is also at liberty to rearrange the content sequence and periodicity according to progress of the children.

6. There is no class system. Pupils are divided unit wise. There is no examination at the end of every year as in formal education. The evaluation is done on the completion of each unit and the final examination is held after completing all the units.

Several patterns, which are in operation in M. P., to provide education to the school drop-outs and non-entrants are as follows :

1 Result-oriented model linked with formal education is the oldest model of NFE tried out in M. P.,

2. The second model under trial in the state emerges from another scheme of the state titled "Earn While You Learn."

3. "Panghat yojana" was another NFE plan which has been tried out only on limited basis in the state. The major objective of this plan, which was implemented at Bhandran near Hoshangabad, is the upliftment of the village through the education of children as well as adults.

4. The fourth pattern available in the state is that of the NCERT which was implemented through the Regional College of Education, Bhopal and Field Adviser (NCERT), Madhya Pradesh during 1979-1982 period.

The State Institute of Education condensed and reorganised the prescribed primary school as well as middle school syllabi with a view to facilitating learning among pupils of the NFE centres who could complete it in 2 years. The syllabus of primary and middle stage is divided into 18 units and each unit has a built-in evaluation system. The students who cannot afford to pay the examination fee are given financial help by the Government so that they can appear in the examination. A pupil at the NEE centre is at liberty to appear at the main examination or at the supplementary examination or at both according to his or her own convenience.

Under the "Earn While You Learn" scheme, which has evoked the interest of educationists all over the world, Madhya Pradesh school children have produced goods worth crores of rupees. This scheme is in force in about 354 centres located all over the state. The children produce items like Tatpathi (mats), chalk sticks, sealing wax, girls, uniforms and school furniture under the guidance of their teachers who also get remuneration for this.

Their parents cannot afford to send their children to schools at the cost of losing a part of their meagre family income which led to poor enrolment in schools and percentage of drop-out also went up. The scheme, launched 10 years ago during Fifth plan (1975-80), was with the specific objective of attracting the non-entrants to school and to provide opportunities to the drop-outs to earn something so that they may be able to complete at least the elementary education and to enable the pupils to utilise their leisure hours in learning a productive skill. It was decided that under the scheme only such items should be taken up for production which have regular consumption in the Education Department itself so that there is no problem of marketing the goods produced. Upto 1984-85 the scheme had benefited nearly 18,000 boys and 5,500 girls who earned a total of Rs 30.15 lakhs. The bonus paid to the teachers amounted to Rs. 4 lakhs.

As mentioned earlier, 'Panghat Yojana' is another NFE plan which has been tried out in the state. One of the major objective of this plan was upliftment of the village through the education of children as well as adults. The Plan aimed at linking NFE with formal education system for those who were desirous of joining the main stream. It also served to provide functional education to each of the groups as per their needs. Implementation of the scheme at Bhandirban near Hoshangabad gave the impression that involvement of children and adults is very useful if it is possible to mobilise both categories of inhabitants simultaneously. It was noticed that the children and adults, including women, were very enthusiastic about education as well as the development of the village. For example, education of young girls could start right from the religious instruction or home science as realised by them or by their mothers. Likewise instruction about health and hygiene could be provided to them while they are engaged in different agricultural occupations. The children at the 'Panghat Yojana' were taught through the environment. They acquired the knowledge of arithmetic by counting the lemons and gauvas. They were also engaged in trades, such as weaving, pottery etc. Through their travel in trucks they were able to know the geography of the state.

The contribution of NCERT for NFE has been mainly through the development of curriculum framework with necessary training to the teachers, who are essentially field workers. During our visits to the NFE centres, run by the College and Field Advisor (NCERT), it was found that members of the community have been motivated for meeting the educational needs of their children. It was also found that the children have sufficient motivation to continue their studies even after they have passed their primary school examination. Though these centres were started with separate curriculum materials prepared specifically for the needs of the 'out-of-school' children, they were later exposed to the major scheme of the state of M. P. to prepare students for the final Fifth grade examination and many of them have passed these examination creditably.

Progress of the Programme

The NFE in M. P. was started in 1975-76. At the end of Fifth Five Year Plan there

were 4450 centres in the state. This number increased and reached 15280 during the Sixth Five Year Plan (1980-85). Yearwise details of the NFE centres established the Sixth Plan are given below :

Year/No. of Centres	Primary Level	Middle Level	Total
Fifth plan	2450	2000	4450
1980—81	1050	1000	2050
1981—82	306	306	612
1982—83	3400	—	3400
1983—84	1000	—	1000
1984—85	3768	—	3768
Total	11974	3306	15280

Out of 11,512 centres established in the state till 1983—84, 7722 were in the tribal areas.

Total enrolment under the NFE programme has been 2.18 lakhs. In the year 1983—84, the total number of students who appeared in Class V and VIII examinations was 42218. Out of this, 24,600 students could pass the examination. The pass percentage of children was about 58.26 which is quite encouraging (Source : Non-formal Education, Directorate of Public Instruction, Madhya Pradesh, Bhopal, 1984).

1.4. Instructional Skills for Teachers of NFE Centres

Teaching at the NFE centres is a difficult and complex task. It is difficult in the sense that both learners as well as their parents are to be motivated for the task. It is complex in its learning contents which have to be improvised for each group of children. It is complex in the multiplicity and multi-media of learning that is used, of which the teacher and the environment they live in are the two main sources. It is complex in the sense that teaching is done in a non-tradition learning environment as compared to the formal school where rigidities prevail.

Like formal educational system, there are three 'stems' of NFE, namely, the child, the content and the teacher. The first stem, that is, the child in the non-formal system is gene-

rally disadvantaged. Disadvantaged in the sense that he does not have sufficient time and resources to attend formal schools. As far as the second stem is concerned, work has been done to develop the content for the NFE system by various agencies. Text-books are being developed according to the needs and environment of the children. Third most important stem of NFE system is the teacher. The success of NFE depends greatly on the teacher who may be called a field worker or 'facilitator'. A question that arises here is : "How is this teaching different from the one at the formal school?" Not much work has been done in this area. At present we are having Basic Teacher Training Institutes for training the elementary school teachers. Except some orientation in the area of NFE and providing on the job experiences at the NFE centres, these trainees are not given any organised training in NFE. Recently special training has been started in the use of science kits that have been provided to the NFE teachers by the M. P. State Government. But there is need to know the specific components of NFE in which these teachers can be trained. This project was undertaken with a view to identifying those aspects of teacher behaviours which are to be acquired by the teachers who will be required to run the NFE centres either attached to the formal schools or working independently.

Teacher behaviour forms part of the total classroom situation from pupils' point of view. The teacher, however, views his behaviour as a product of interaction between situations and personal factors (such as his own perceptions, needs, beliefs, values and motivation). Regardless of this point of view, teacher behaviour may be observed directly by others and studied objectively. In fact, classroom behaviour of the teacher is instrumental in achieving the pupil outcomes to a great extent. In a given set up, where teachers (preservice and in-service) are at work, the presage variables of teachers, such as, interest in the NFE system, attitude towards NFE and skills may not have been developed to the desired level. On the other hand, in order to improve pupil outcomes, teachers' teaching behaviour can be improved upto a desirable level and for this there is a need to analyse those teaching behaviours which are helpful in improving the pupil outcomes. These behaviours may be called teaching skills.

The knowledge of the teaching skills, typical to a level, would enable the teachers or field workers of NFE, to focus their attention on the more crucial aspects of teaching. Hence the present project, supported by the ERIC, was undertaken by the Regional College of Education, Bhopal to identify instructional skills as may be possessed by the teachers, field workers or instructors of NFE centres and to develop instructional material for the development of these skills.

There may be a number of ways to identify instructional skills. A few but powerful methods of identifying instructional skills are: analysis of content, analysis of conceptualised classroom teaching, observation of teaching at the NFE centre and opinion of experts and workers working in the area. Recent researches (Davis, 1982) on the interaction between the student and teacher reveal that : (i) the teacher is the most significant factor in student

success; and (ii) for successful achievement in a subject (e.g., science) the student and teachers are the key factors. (Davis, Gary A., 'Science Education', In Encyclopedia of Educational Research, Vol. V, 1983).

Numerous researches in India and abroad have shown that training should focus its attention on the development of teaching skills. The training programme should be designed to maximise the attainment of these instructional skills within a given time. Teaching skill is a set of teacher behaviours (skill component) that a teacher uses effectively to bring about desired changes in pupils. For bringing about the maximisation of the attainment of the various teaching skills within a given time, microteaching approach has been used with success. The principles that underly microteaching are: capacity of the student teacher is taken into account; intrinsic motivation of the teacher trainee is at play; weaknesses of the teacher trainees are diagnosed and remedied; and desirable teacher behaviours are reinforced; only one aspect of teaching behaviour is practiced at a time; and the teacher trainee actively participates in the teaching process. There is immediate feed-back which brings about the maximum improvement in the teaching of the trainee. Training given under microteaching conditions has proved to be effective. It increases teachers' competence. It is a good predictor of subsequent classroom performance. Trainees' acceptance of the importance of microteaching is very high. Significant improvement in the teaching skills of the trainees have been observed by adopting this approach.

A number of skills have been identified which are necessary for better teaching. Some of these skills are : skill of stimulus variation, skill of explaining, skill of probing questions, skill of illustrating with examples, skill of blackboard writing, skill of increasing pupil participation, skill of using audio-visual aids, skill of class (or centre) management, skill of recognising and attending pupils' behaviour, skill of reinforcement, skill of teacher silence and non-verbal cues.

Orlasky (1982) concludes that both protocol materials (written material in specific formats) and microteaching offer productive approaches to teacher preparation in the area of skill development. Pedagogical training calls for three elements to be provided. One is the identification of the body of knowledge and skills which the teacher needs to acquire. Progress is being made in establishing this knowledge but it will always be subject to revision. A second element to be provided is conceptual skill to improve the accuracy of diagnosis of school events. This element calls for a progression from awareness of concepts, principles and theories for the use of this knowledge in the classroom. The third element is the actual skill of performing. In a recent survey Rao (1986) has pointed out that trained teachers can reduce the drop-out rate. This may be achieved through microteaching. However critics of teacher training programmes may consider the lack of certainty about the best skills and the most effective methods of learning these skills by the teachers (obviously in certain skills). This view point supports the idea of identifying the skills needed by teachers working in any area-

formal or Non-formal. Much work has been done in India and abroad during the last 15 years for the identification of skills for formal school setting. Since Non-formal approach of teaching is finding increasing acceptance for the universalisation of elementary education, it was thought appropriate to study the relevance of the skills identified earlier for the formal school setting as well as to identify some new skills which may be needed by the teachers for imparting instruction to the pupils at the Non-formal Education centres. In order to identify the skills needed for NFE teachers, a review of the researches conducted in the Formal as well as Non-formal school settings has been presented in the next chapter.



CHAPTER II

Previous Researches and the Present Study

2.1. INTRODUCTION

A country, which has only about 40 percent of its people literates and a significant number of school going children leaving the schools without completing even their primary education, needs the Non-formal Education (NFE) system most. But researchers have not paid much attention to its problems in that seriousness. Formal education and its problems, especially the secondary education, have been the area of interest for them. Only a few research studies have been conducted in NFE area which are reviewed in this chapter.

Grewal, Gupta and Sharma (1983) analysed the opinions of 20 NFE centre teachers and supervisors and obtained the order of priorities of the instructional skills from formal and non-formal education point of view. Mullick et al (1981) developed learning materials for the girls in the age group of 11 to 14 years, studying at the NFE centres functioning in rural areas. In the recent years, teaching and teacher behaviour area has been considered important for research. Out of a number of researches completed in this area, a few studies have focused their attention on the patterns, strategies and styles of teaching in-relation-to student achievement.

Dosanjh (1977) made an inquiry into imagination and maturity as factors indicating the success in teaching. Padma (1976) made a study of teaching patterns and pupils' attainments. Roy (1977) studied classroom questioning and pupil achievements. Lulla (1974) made an investigation into the effects of teachers' classroom behaviour on pupils' achievement. Lalithamma (1977) made an inquiry into classroom instruction with reference to teacher education programmes.

Practice teaching, including microteaching, which is a part of teacher training programme has been the theme of many studies in formal sector of education. Joshi (1977) studied the effectiveness of microteaching as a technique in teacher education programme. Passi (1977) studied the effect of instructional materials and feed-back upon the development of teaching skills of set-induction and closure. Bhattacharya (1975) studied the effect of microteaching in the training of polytechnic teachers. Vaze (1976) studied the effects of modelling and microteaching on the acquisition of certain skills in questioning. Gupta and

Dutta (1979) studied the effect of increased class size on microteaching. Grewal and Singh (1983) studied the development of teaching skills with different sets of skills. As stated earlier Grewal, Gupta and Sharma analysed the opinions of NFE centre teachers and elementary teacher educators in order to determine the priority in teaching skills applicable to instruction at the NFE centres. The following order of priorities was found by rank—ordering the given set of skills. The different order of priorities found in the Formal and Non-formal settings are listed below.

Skills Required From Formal Education Point of View	Skills Required From Non-formal Education Point of View.
1. Skill of Analytical Reading	1. Organisational Skill
2. Skill of Elementary Writing	2. Skill of Elementary Writing
3. Skill of Elementary Reading	3. Skill of Cooperation With the Community
4. Organisational Skill	4. Skill of Elementary Reading
5. Skill of Good Writing	5. Skill of Good Writing
6. Skill of Elementary Arithmetic	6. Skill of Analytical Reading
7. Skill of Conceptual Reading	7. Skill of Elementary Arithmetic
8. Skill of Emotional Reading	8. Skill of Dealing with Pupils' Reading
9. Skill of Giving Class Work	9. Skill of Operational Mathematics
10. Skill of Dealing With Pupils Responses	10. Skill of Conceptual Reading
11. Skill of Operational Mathematics	11. Skill of Emotional Reading
12. Skill of Narration	12. Skill of Giving Classwork
13. Skill of Behavioural Reading	13. Skill of Behavioural Reading
14. Skill of Cooperation With Community	14. Skill of Narration

In another unpublished study, Grewal and associates (1983), after analysing the opinion of 34 teacher educators, identified the following priorities of instructional skills from the Formal and Non-formal point of view :

Skills Required From Non-formal Education Point of View	Skills Required From Formal Education Point of View
1. Skill of Organising NFE Centre	1. Skill of Giving Home Work
2. Skill of Developing Rapport With the Community	2. Skill of Giving Classwork
3. Skill of Illustrating With Examples	3. Skill of Probing Questions
4. Skill of Developing Emotional Reading	4. Skill of Developing Analytical Reading
5. Skill of Multiple Class Teaching	5. Skill of Giving Dictation in a Class
6. Skill of Introducing Number Concept	6. Skill of Dealing with Pupils' Response
7. Skill of Introducing Number Reading	7. Skill of Supervising a Class
8. Skill of Supervising a Class	8. Skill of Developing Good Handwriting

The studies conducted at the Regional College of Education, Bhopal (Grewal, J. S. et. al: 1983) arrived at the following conclusions with regard to NFE programmes conducted in Madhya Pradesh which could probably form a basis for the curriculum development including the instructional skills required under this programme.

(1) About 10 to 15 percent of the children enrolled at the NFE centres passed the primary school certificate examination organised by the District Education Officer.

(2) Unit-wise work is done at the NFE centres.

(3) Sixty per cent parents are illiterate and only about 15 per cent of them come to enquire about the progress made by their children.

(4) Teacher-taught relations are cordial at the NFE centres. However, education at the NFE centres has to be made life-oriented.

(5) Concentrated and systematic attempts are needed to increase the enrolment of children at the NFE centres.

(6) Some type of training in vocational trades alongwith literacy and numeracy has been considered most desirable.

(7) Teaching at the NFE centres does not appear to be inferior in quality in any way as compared to the one at the formal schools. However, many improvements are needed particularly in imparting instructions for which the identification and development of teaching skills is to be given priority.

2.2. BACKGROUND STUDIES

2.2.1. Environmental Approach to Teaching

Gupta, Grewal and Rajput (1983) have studied the environmental awareness among children of rural and urban schools and NFE centres. The main objectives of the study were : (1) to know the components of environment in which children from rural and urban areas are lacking and the areas in which the students from both the streams are well acquainted; (2) to compare the environmental awareness of school-going children and children studying at NFE centres; and (3) to suggest means of developing environment-centred curriculum for the universalisation of elementary education. The study was conducted on 115 children of Class IV—20 from rural; 35 from urban and 60 from NFE centres.

It was found that : (1) the difference between formal rural and formal urban children on environmental awareness is significant and is in favour of the formal rural; (2) difference between NFE and formal urban settings are also significant on the environmental awareness dimension and are in favour of NFE; and (3) the difference between NFE and formal rural school setting on environmental awareness is not significant. This study thus suggests need for special skills based upon environmental approach in the Non-formal context. A similar study has been conducted on the children studying at NFE centres in Maharashtra State.

2.2.2. Programmed Learning Approach

The main objectives of Mullick's study, mentioned earlier, was to develop learning materials based on the principles of programmed learning for education of girls on health education in rural areas in the age group of 11-14 through NFE. The main findings were : (1) The try-out of the tape slide programme on 11-14 year old girls outside school revealed that the tape slides presentation was an effective means of teaching the illiterates; (2) the teacher trainees felt that tape slide materials were helpful in making the lessons interesting. These were especially found to be useful in the classes having large number of children : and (3) it reduced teacher's work-load and proved to be better than the traditional method of teaching.

2.2.3. Instruction Through Correspondence

Patrada Yomnak in "The Khitpen-NFE Newsletter (1983)" reviewed a project and a

seminar undertaken at the Operation Division of the Department of Non-formal Education, Bangkok, Thailand. Non-formal Radio Correspondence Project was initiated in 1976 in Thailand. The purpose of this project was to provide an access to education for the out-of-school people especially those in the rural areas by means of radio programmes, students' hand-books and group meetings led by a group organiser. Indigenous types of entertainments were very popular among the villagers. These included the coverage of current events, developments, news and other relevant issues. Mobile audio-visual units, as instructional techniques, have also been used in the NFE programmes in that country. As reported earlier the programme became popular among villagers who were enrolled in the three types of programmes offered. These were functional literacy, continuing functional education and interest groups.

2.2.4. Impact of Background Variables and Teaching

In 1976, Avinash Grewal in her paper "Case Studies of Children Getting Non-formal Education" analysed the background of 20 children (11 females and 9 males) enrolled at a NFE centres attached to an Elementary Teacher Training Institute. Case studies of these children indicated that almost all of them came from large families. Their parents' income was very low. Their educational and occupational level was also not high. This indicated the existence of poor educational environment in the home. Children had to work hard in different capacities to supplement the income of their families which had a direct bearing on their poor educational attainment. They were lagging behind in studies by over three years. While some of them dropped out due to family reasons, school factors like poor teaching, excessive behaviour control and corporal punishment created an aversion for the school. This study, however, did not include for investigation the instructional techniques used by the teachers. But poor teaching was found as one of the factors for non-retention of children at the NFE centres.

2.2.5. Study With Modified Microteaching Approach

The aim of the study "Developing Teaching Skills—Report of an Experimental Study on Microteaching Approach" by Grewal and Singh (1977) was to analyse Standard Microteaching Technique (SMT) and Modified Microteaching Techniques (MMT) with a varied set of skills upon the general teaching competence (GTC) of teacher trainees to study the comparative effectiveness of SMT and MMT upon retention of GTC and to study the effectiveness of SMT and MMT upon gains made by the pupil teachers upon teaching attitudes. The results of the study indicated that there are no significant differences in the gains made by the SMT and MMT groups in their teaching competence. It means that if one group of trainees are given intensive training in one set of skills and the other group in another set, it does not make much difference. It can, therefore, be inferred that there is transfer in the acquisition of teaching skills. The gains in the attitude scores indicate that as the training session proceeds there is positive and favourable change in their attitudes towards teaching.

2.2.6. Instructional Strategies Based Upon Models of Teaching

Passi (1982), in his review of models of teaching, indicated that the approaches to teaching are classified into four families, namely, (1) Social Interaction Models which emphasise the relationship of the individuals to society or to other persons; (2) Information Processing Models referring to the ways people handle stimuli from the environment, organise data, sense problems, generate concepts and find solution to the problems and enjoy verbal and nonverbal symbols; (3) Personal Models emphasizing the processes by which individuals construct and organise unique reality. Frequently they give much attention to emotional life. The focus is on helping individuals to develop a productive relationship with their environment; and (4) Behaviour Modification and *Cybernetic* Models have been evolved from the attempts made by psychologists and educationists to develop efficient systems for sequencing tasks and shaping behaviour by manipulating reinforcement. In addition to the information processing models, personal and behaviour modification models are equally important as a rapport with the children and then parents are important in the NFE system. At the same time, such a large number of models of teaching produces a sense of insecurity amongst student teachers and teacher educators. It is believed by many that the quality of teaching improves with the increasing mastery over a variety of models of teaching and also the ability to use them effectively. But at the same time attainment of mastery over all models of teaching by all teachers appears to be a different task. Some teachers should attain mastery on a single model of teaching and utilize it well in classroom teaching. Others may attempt the remaining models. In order to master these models, through the usual practice teaching programme, two interlinked problems would be faced : (1) resistance to change by teacher educators; and (2) the non-availability of instructional material. Resistance to change can be overcome to some extent by organising a series of lectures, talks, seminars and workshops for creating general awareness and acceptance among the teacher educators. In order to solve the second problem, namely, developing suitable instructional materials for the use of teacher training institutions, a concentrated effort by teacher educators and researchers is required. Use of models, or their specific components, by the NFE field workers is a potential area of exploration.

2.2.7. Teaching Patterns

The experimental studies by Sharma (1972) and Padma (1976) attempted to find out the influence of different teaching patterns on the cognitive attainment of pupils. The findings indicated that the pattern of training (narrow questions limited in score) was found to be more effective as compared to other patterns. In her study, "Teaching Patterns and Pupils' Attainment", Padma (1976) studied and found out the effectiveness of four different patterns on the development and retention of applicational ability in physics students of class VII of Baroda city. On analysis it was concluded that all the four teaching patterns were having equal effects on the development of applicational ability, when measured under supervised planned teaching conditions.

2.2.8. Attitude Towards Teaching

The finding of another study by Passi and Shah (1973) revealed that : (1) the attitudes of student-teachers were favourable towards the feasibility of microteaching in teacher training programmes in simulated and real conditions; and (2) the student-teachers favoured the "re-teach" session, the time taken for the "teach session" and for "planning". The pattern of "teach-session" was not favoured.

2.2.9 Verbal Interaction Pattern

Maheshwari (1976) has explored the classroom verbal interaction pattern of effective and ineffective teachers. The findings indicated that the effective teachers used the categories of "accepts feeling, praises, uses students' ideas, questions, students' response and initiation" whereas the ineffective teachers employed "lecture, direction, and authority categories in the classroom behaviour. The effective teachers involved more creative teaching models. In the effective teachers, teaching student responses and initiation were followed by teacher's praise and accepting feeling whereas ineffective teachers' teaching student response and initiation were followed by direction and authority.

2.2.10 Interpretation of Interaction Analysis and Microteaching

Chudasama (1971) tried out microteaching with six students at the Faculty of Education and Psychology, M. S. University, Baroda. The objectives of the were (1) to know the extent to which microteaching can help a student teacher in developing more integrated behaviour, and (2) to see if interaction analysis can be integrated into the microteaching procedure. The findings indicated that microteaching developed the skills of questioning in the teacher and increased pupil participation in the class.

2.2.11. Effect of Teaching Styles Upon Cognitive Abilities

Roy (1977) in his study, "Classroom Questioning and Pupil Achievement-An Inquiry Into the Teaching Styles", tried to find out the relative effectiveness of the three styles of teaching upon pupil achievement for the instructional objectives of knowledge, comprehension, application and total achievement. The three styles of teaching were : lecturing questioning and response without feedback; and questioning response feedback sequence,

The study revealed that the three teaching styles had equal effects on the development of knowledge and application abilities and total achievement of pupils. However, with regard to comprehension ability, there were differential effects. Lecturing differed significantly from question response feedback sequence. Question response without feedback and question response with feedback did not differ significantly.

2.2.12. Studies on the Teachers' Classroom Behaviour and Pupils' Achievement

Lulla (1974) in her study, "An Investigation Into the Effects of Teacher Classroom

Behaviour on pupils' Achievement," attempted to find out the effects of teachers' classroom influence upon the pupils' achievement. The study revealed that the pupils who were taught by teachers trained in using indirect behaviour scored higher as compared to their counterparts studying under the teachers who were not provided any training. It was also implied that the indirect teacher behaviour may raise the interaction potential of the classroom climate resulting in free communication and open interaction between the teacher and the group of pupils. It was found that such an atmosphere not only stimulated the learning but also provided a congenial climate to the teacher for conducting his teaching.

2.2.13. Differential Acquisition of Teaching Skills

The major objectives of the study, "Effectiveness of Microteaching as a Technique in Teacher Education Programme" by Joshi (1977) were : (1) to enquire into the effectiveness of instructional materials synchronised with microteaching approach in the acquisition of teaching skills, namely, stimulus variation, illustrating with examples, silence and non-verbal cues and recognising attending behaviour, and the general teaching competence among the student teachers; and (2) to inquire into the effect of instructional materials alongwith the microteaching upon the attitudes of student teachers toward teaching.

The important findings of the study were that : (1) the student teachers exposed to the treatment of the skill-based instructional materials synchronised with microteaching for all the four skills, scored higher in the acquisition of respective skill than the student teachers exposed to the traditional teaching programme; (2) the experimental group scored higher in the acquisition of general teaching competence than the students teachers exposed to the traditional teaching programme; and (3) the experimental groups together did not differ significantly from the control group in their attitude towards teaching.

2.2.14. Studies on the Skill of Questioning

The main objectives of study by Vaze (1976) on "Effect of Modelling and Microteaching on the Acquisition of Certain Skills in Questioning" were : (1) to develop different types of models depicting the use of three different skills (probing, convergent and divergent questioning) in asking questions; (2) to study the affects of modelling and microteaching on the acquisition of these skills in questioning at different stages of the acquisition; and (3) to study the effects of training in questioning skill on the classroom performance. The findings of the study indicated that : (1) Microteaching appeared to be the best treatment for acquiring the skill in asking probing-questions when tried at the beginning of the academic year; (2) Symbolic modelling appeared to be the best treatment for acquiring the skill in asking probing questions followed by audio-modeling and microteaching coming out to be the least effective treatment, when tried with predominantly language-oriented group; and (3) Microteaching appeared to be the best treatment for acquiring the skill in asking convergent questions followed by audio-modeling and symbolic-modelling.

2.2.15. Studies on the Skill of Planning Instruction and Testing

The major objectives of Lalithamma's study (1977) on "An Inquiry Into Classroom Instruction", were : (1) to identify and list teaching skills required for effective classroom instruction; (2) to prepare instructional materials for developing some identified teaching skills; and (3) to validate the instructional materials thus developed.

The study identified three major categories of skills. These were : (1) Skills of planning such as skill of identifying learner's entry behaviour and the skill of writing instructional objectives; (2) Skills of instruction namely, questioning skill, skill related to pupil evaluation, skill related to pupil attention, and skill related to classroom management; (3) skills of testing such as skill of writing a variety of test items, skills of making plausible interpretations about the performance of pupils on the test. The study revealed that experimental group and the control group differed significantly in favour of the former group in the development of skills. Experimental group was significantly better than the control group.

2.2.16 Effect of Teacher Training Approaches upon the Development of Instructional Skills

The main objectives of Passi's (1977) study on "Effect of Instructional Materials and Feedback upon the Development of Teaching Skills and Set Induction and Closure" were : (1) to examine the nature of feedback provided to the student teachers in the prevailing student teacher programmes; (2) to study the attitudes of student teachers towards microteaching; (3) to develop instructional materials for selected teaching skills; (4) to study the effectiveness of instructional materials in developing corresponding teaching skills and general teaching competence among student teachers; and (5) to study the effect of different training approaches upon the attitudes of student teachers towards teaching. The important outcomes of the study were as follows: (1) The comments of supervisors clustered around a few aspects of teaching like questioning, explaining etc. Aspects like content selection and remedial measures were ignored; (2) Students who underwent the microteaching programme were in favour of it, (3) On the Baroda General Teaching Competence Scale, Groups A and B differed significantly from Group C, and (4) All the three groups did not differ significantly from each other on their attitude towards teaching.

2.2.17 Studies on the Simulated and Real Classroom Conditions

Passi and Shah in their study on "Microteaching Experiments in Simulated and Real Classroom Conditions" studied: (1) the feasibility of microteaching in the Colleges of Education; and (2) to study the attitude of student teachers towards microteaching in simulated and real classroom situations.

The findings of the two experiments revealed that teachers' attitudes were favourable towards the feasibility of microteaching in teacher training programme in simulated and real

conditions; the student teachers favoured the reteach session; the time taken for the teach session and for planning but the pattern of teach session was not favoured. The equal chance hypothesis was accepted in the case of provision for time, microteaching units covered and the role of supervisors towards whom the student teachers showed favourable attitude. It was rejected in the case of total attitude scores on ASMT, attitudes towards techniques of microteaching component skills and provision for feedback towards which the students showed a favourable attitude.

2.2.18 Study of Teaching Competences

Passi and Sharma (1982), after factor analysing a large number of teacher-pupil classroom behaviours of Hindi and English medium secondary schools of Indore District, identified nineteen teaching competences which contribute to effective teaching. These competences were : giving assignments; loud reading; asking questions; introducing a lesson; managing a classroom; providing clarification; using blackboard; using reinforcement; pacing; assisting repetition; consolidating the lesson; improving pupils' responses; consolidating the lesson; dealing with pupils' responses; improving pupils' behaviour; audibility; using secondary reinforcement; recognising pupils' attending behaviour; presenting verbal model and shifting sensory channel.

2.3. Conclusion

From the perusal of researches cited in the preceding sections one tends to form an impression that practically no studies have been conducted at the primary stage, both formal and non-formal, as far as the identification and development of instructional skills is concerned. Almost all the studies are conducted with microteaching approach with secondary school as a target group. Non-formale education centres are single teacher settings where one teacher, or for that matter a field worker, has to perform a number of functions which includes acquisition of certain basic skills on the part of NFE instructors—organisational, pedagogical, motivational and assessment of pupils' learning outcomes. Studies are required to be done which aim at assessing the relative effectiveness of certain skills which might make use of most simple instructional skills and devices. Findings of such studies will enable the NFE workers to evolve curriculum and adopt institutional strategies suiting to the needs of NFE centres. The present project was, therefore, undertaken with the financial support of ERIC, the major objective being to identify those instructional skills as are more relevant to the needs of NFE instructors

METHODOLOGY

Tools, Techniques and Procedures

3.1. Introduction and Rationale of the Study

In the context of universalisation of elementary education instruction at the NFE centres is an area which needs attention of researchers. The targets of universalisation can not be reached and the goals of NFE programmes can not be achieved unless instruction at the NFE centres attains a particular level of proficiency. If instruction at NFE centres is to improve with a view to attracting more and more children at NFE Centres and to maintain and sustain their interest in education, proper learning climate may be required to be generated at these centres. For this purpose the NFE teachers have to be effective and teachers can be prepared only through the application of suitable training strategies. Teacher effectiveness, in terms of classroom climate and classroom management style, is not a new idea and has been discussed by many schemes including Travers (1981).

Instructional materials and instructional strategies of NFE have to take into consideration the needs and aspirations of the children attending these centres. These children have somewhat different motivations and attainment levels than those enrolled in the formal systems.

The teaching strategies, required to be adopted at NFE centres in order to make the NFE teachers more effective, can be built up on empirical bases only through identifying instructional skills needed by them. In India, research on teaching skills and teaching effectiveness has taken various forms as reported in the studies of Passi and Sharma (1982), Passi (1977), Padma (1976), Sharma (1972), Maheshwari (1976), Lalithamma (1977), Joshi (1977), Lulla (1974) and many others. Much of the work has been reviewed and can be found in Second Survey of Research in Education (Buch, 1979). But these researches have mostly been confined to the formal school system. Based upon the findings of these studies and as per the requirement of training the NFE centre teachers, the present project was undertaken.

3.2. Objectives of the Project

The objectives of the project were : (i) To identify the instructional skills required by the teachers of NFE centres; (2) To develop instructional materials for promoting these skills;

and (3) To share the gains of the project with the workers of Non-formal and also with the functionaries of adult Education.

The specific objectives of the study are : (1) To develop classroom observation procedures which would be valid and feasible in the Indian Non-formal context; (2) To collect data about the classroom interaction on the basis of which some conclusions regarding instructional skills may be arrived at; (3) To identify a set of instructional skills needed by the NFE centre teachers and (4) To develop suitable instructional material for the NFE centre teachers from the stand point of their training.

3.3. Meaning of the Term "Identification"

To Identify means 'to isolate' and 'to find out'. Finding out instructional skills means locating the teacher's competence and then judging the nature and type of skills in which they need more training. Thus the process of identifying was carried out in the following three ways :

- (1) Collecting opinions of teachers, teacher-educators and then arriving at conclusions about the required instructional skills on the basis of these opinions;
- (2) Directly observing a teacher's performance at the NFE centre and then on the basis of these observations enlisting the required instructional skills; and
- (3) Observing classroom behaviours of children and determining a cluster of skills thereafter.

3.4. Approach Adopted in the Identification of skills

In the present study, a combination of all the above alternatives was followed. First, a workshop of NFE teachers teaching at the NFE centres was organised. The field supervisors of these centres also participated in the workshop. Thorough discussions were held for first two days and finally set of skills considered necessary for the NFE centre teachers were identified.

Afterwards, the 25 identified skills alongwith some additional skills were discussed with the teacher educators (N-34). The components of each of these skills were listed and comparative priorities of these skills in the Formal and Non-formal contexts were discussed and consensus with regard the their relevance was arrived at.

Lastly, the main aspect of the study, that is, data collection, on the basis of teachers' performance through classroom observations was planned.

3.5 List of the Skills Identified for Being Assessed in the Observation Programme

3.5.1 Presentation Skills :

1. Skill of Introduction a Lesson;
2. Skill of Assigning Work;

3. Skill of Explaining
4. Skill of Fluency in Questioning
5. Skill of Probing Questioning
6. Skill of Illustrating With Examples
7. Skill of Using Blackboard
8. Skill of Demonstrating
9. Skill of Giving Dictation
10. Skill of Story-Telling
11. Skill of Recapitulation

3.5.2. Supervisory Skills :

12. Skill of Giving Classwork
13. Skill of Supervising Classwork
14. Skill of Effective Centre Supervision
15. Skill of Giving Homework

3.5.3 Developmental Skills

16. Skill of Developing Reading
17. Skill of Developing Writing Alphabets
18. Skill of Developing Good Handwriting
19. Skill of Developing Number Concepts
20. Skill of Developing Number Operations

3.5.4 Reading Demonstration Skills :

21. Skill of Demonstrating General Reading
22. Skill of Demonstrating Analytical Reading
23. Skill of Developing Reading for Comprehension
24. Skill of Developing Reading for Emotional Effects
25. Skill of Organising an Activity

3.5.5. Non-Verbal Skills :

26. Skill of Encouraging and Restricting Behaviours

3.6. Development of Tools for Data Collection :

- In all, the following six scales were constructed for the purpose of data collection :
- (1) General Teaching Effectiveness Scale;

- (2) Teaching Skills Scale—Set I, II, and III;
- (3) Organisational Ability Scale; and
- (4) Teacher's Non-verbal Behaviour Efficiency Scale.

(1) General Teaching Effectiveness Scale (GTES) :

This scale consists of 26 classroom climate dimensions which are to be observed. The dimensions were adopted from Tuckman (1980). The 26 dimensions form four clusters : general classroom climate; motivational level; interaction level; and teachers' teaching style. The performance of teachers on these dimensions of classroom behaviour were rated by trained observers on a nine point scale indicating the quality—ranging from 'very poor' to 'very good'. The ratings were decided after observing the lesson twice. Firstly, the response pattern namely, 'poor', 'medium' and 'good' was decided and then in the second observation the respective sub-category was decided. The ratings were then converted into numerical scores ranging from '0' to '9'. The summated scores over the 26 items were then taken as the teaching effectiveness measure of a particular teacher.

The content validity of the instrument was established through discussions with experts. The inter-observer reliability was determined in the sense that three observers observed the same lesson. The numerical rating scores were obtained for each of the 26 dimensions. Analysis of variance technique was applied to know whether individual observers themselves were a source of variance. The F-ratio for the scale was obtained which may be taken to represent the reliability level of the instrument during observation phase.

(2) Teaching Skills Scales (TSS)-I, II and III :

The skills included in each set corresponded to a lesson in the sense that a lesson was so designed that the skill to be observed is most likely to be exhibited by the teacher during the teaching session. Prior to the use of the scale, the teacher was oriented in that lesson. Every skill and its component was observed, rated and scored in the same way as described in the GTE scale. Sum total of the scores over the components of a particular skill gave the total summated scores over a particular skill. The following skills were observed in the respective sets :

SET I (Lesson : National Flag And National Anthem) : The following skills were observed in this set : Skill of introducing lesson, skill of demonstrating elementary reading, skill of developing analytical reading, skill of developing reading for comprehension, skill of developing reading for emotional effects, skill of story-telling, skill of describing and skill of explaining.

SET II (Lesson : Balanced Diet) : The following skills were observed in this set :

Skill of introducing a lesson, skill of describing, skill of developing reading, skill of fluency in questioning, skill of probing questioning, skill of developing handwriting, skill of using blackboard, skill of illustrating with examples, skill of supervising classwork, skill of recapitulation and skill of giving home work.

SET III : (Lesson : Elementary Number Concepts and Operations) : The following skills were observed in this set : Skill of introducing a lesson, skill of developing letter writing, skill of assigning classwork, skill of developing number concepts, skill of developing number operations, skill of giving dictation, skill of supervising classwork, skill of recapitulation and skill of giving homework.

The content validity of the three scales was decided through discussion with experts and training given to the teachers. The inter-observer reliabilities were obtained through analysis of variance in the same way as is described in General Teaching Effectiveness Scale (GTEC).

(3) Organisational Ability Scale (OAS) :

This instrument consists of ten items which are to be rated in the same way as described in earlier scales. The observation was planned by asking the teacher to organise any activity like organising books, magazines or an exhibition, or some other project or programme and then rating the teacher over the component behaviours on the given activity. Summated scores, over the ten components, give the measure of organisational ability of the teachers.

The content validity was decided by discussions with experts and the inter-observer reliability was obtained through analysis of variance in the same manner as was done in other scales.

(4) Teachers' Non-Verbal Behaviour Efficiency Scale :

Teachers' non-verbal behaviour was observed on 18 dimensions adapted from Galloway system. The Galloway system investigates the non-verbal behaviours of teacher and students in the classroom to understand more fully how people communicate without words and thus how teaching behaviour may be improved (Mc Nergney, Carrier, 1981). According to Galloway (1968), nonverbal cues operate as a part of a silent language that influence teacher-student understanding and interactions. The teachers, by their nonverbal behaviours (gestures, body movements, facial expressions), can either inhibit or encourage student participation in the classroom. French and Galloway (1968) have worked out the relation-

ship between Flander's Interaction Analysis categories and Galloway's System in the following way :

Verbal Categories (Flander's)

1. Accepts student feeling
2. Praises or encourages
3. Accepts or uses ideas of students
4. Asks questions
5. Lectures
6. Gives directions
7. Criticizes or justifies authority
8. Student Talk-Response
9. Student Talk-Initiation
10. Silence or Confusion

Nonverbal Categories (Galloway's)

1. (None)
2. Congruent—Non Congruent
3. Implement—Perfunctory
4. Personal—Impersonal
5. Responsive—Unresponsive
6. Involve—Dismiss
7. Firm—Harsh
8. Receptive—Inattentive
9. Receptive—Inattentive
10. Comfort—Distress

Every teacher was observed for about 4 to 6 minutes each. The serial order of occurrence of categories was recorded. Thus during the observation period, the category which occurred more frequently was recorded more number of times. The frequency of every category occurring during that period, thus becomes that teacher's score for that category. Care was taken that correct weightage to each category could be retained during these observations.

The frequency of occurrence of a category could thus be taken as a score for the respective teacher and thus proper rankings of teachers with those frequency scores could be further meaningfully treated.

3.7 Sample of the Study :

The sample consisted of 35 teachers—15 teachers from schools of Rajgarh District and 20 teachers from Bhopal District. The Rajgarh sample included ten teachers from the NFE Centres run by the District Education Officer—5 inservice and 5 freshers alongwith 5 teachers from Govt. B. T. I. Centres. Nine trainees from the centre attached to the B. T. I., Bhopal and 11 teachers from three formal primary schools formed the Bhopal sample.

3.7.1. Age-wise Distribution :

The age-wise distribution of the sample is given in Table 3.1. The age of these teachers ranged from 24 to 39 years. Seven of these teachers were in the 21-25 years' age group; 9 teachers in the 26-30 age group; 8 teachers in the 31-35 age group and 11 teachers were in the 36-40 years' age group.

Table 3.1. Distribution of teachers according to age

District/Age Group	21-25 years	26-30 years	31-35 years	36-40 years	Total
Rajgarh	3	6	1	5	15
Bhopal	4	3	7	6	20
Total	7	9	8	11	35

3.7.2. Distribution of Teachers According to Academic Qualification :

The academic qualification wise distribution of the teachers is given in Table 3.2. Their educational qualifications ranged from high school to post-graduation. 17 out of the 35 teachers had completed high school; 2 teachers had studied upto intermediate; 14 teachers had studied upto B.A. B.Sc. and 2 teachers had done their post-graduation.

Table 3.2. Distribution of teachers according to qualification

District	High School	Intermediate	B.A./B.Sc.	M. A.	Total
Rajgarh	6	—	9	—	15
Bhopal	11	2	5	2	20
Total	17	2	14	2	35

3.7.3. Distribution of Teachers According to Teaching Experience and Age :

Distribution of the teachers is given in Table 3.3. Teaching experience of these teachers ranged from 2 to 20 years with 15 teachers of 5 years' teaching experience; 7 teachers of 6-10 years' teaching experience; 7 of 11-15 years' and the remaining 6 teachers were having more than 15 years' teaching experience.

Table 3.3. Distribution of teachers according to teaching experience

District/Teaching Experience	0-5 years	6-10 years	11-15 years	Above 15 years	Total
Rajgarh	9	2	1	3	15
Bhopal	6	5	6	3	20
Total	15	7	7	6	35

The Rajgarh sample consisted of 12 male and 3 female teachers and Bhopal sample included 7 male and 13 female teachers. Other details regarding the background of teachers included in the sample are given in Tables 3.4 and 3.5.

Table 3.4. Sample characteristics of teachers of Rajgarh District

S.N.	Place	Name	Age	Qualification	Experience in Years
1.	Khilchipur	Smt. Balldua	32	B.A	2
2.	Devjini	Karpenter	28	B.A	2
3.	Balmandir	Y. K. Chaube	29	B.Sc.	2
4.	Pura	Sachilal Sharma	25	B.A	7
5.	Mirchi bazar	Smt. Vyas	26	B.A	2
6.	Bisoria	Sharma	37	B.A	17
7.	Karanwas	Kanwarlal Sharma	39	B.A	16
8.	Chidlawania	Geesalal Verma	37	B.A	15
9.	Paldikhathi	H. R. Piplotia	38	H.S	20
10.	Boda	Shahbuddin Sheikh	26	B.Sc.	10
11.	Gandhigram	Mohan Bansiwal	26	H.S	3
12.	Tindonia	Kanhaiyalal Verma	24	H.S	3
13.	Vihar	Bhavarlal Bali	26	B.Sc.	3
14.	Jamunia	Durga Prasad Sharma	38	H.S	4
15.	Mana	Kanhaiyalal	24	H.S	5

Table 3.5. Sample characteristic of teachers of Bhopal District

S.N.	School	Teacher	Age	Qualification	Experience in Years
1.	Ginnory Boys School	R. D. Chaurasiya	35	B.A	11
2.	"	Akila Thafiri	34	H.S	11
3.	"	B. Srivastav	36	Int.	10
4.	"	A. Kataun	36	H.S	15
5.	Ginnori Girl School	A. Kataun	38	B.A	16
6.	"	Smt. Maya Sinha	39	Ind.	15
7.	"	Smt. S. Saxena	37	B.A	19

8.	Vidya Vihar School	N.Z. Ali	32	B.A	12
9.	"	Pushpa Pandit	30	M.A	3
10.	"	P. D. Tomar	35	M.A	16
11.	"	P. Dhadphale	32	B.A	10
12.	BTI, NFE Centre	R. C. Gupta	24	H.S	4
13.	"	K. N. Jogi	24	H.S	4
14.	"	J. Prasad	38	H.S	11
15.	"	B. P. Sharma	31	H.S	9
16.	"	R. K. Raghuvanshi	28	H.S	9
17.	"	Malti Jain	30	H.S	9
18.	"	V. K. Narogia	24	H.S	3
19.	"	Shaken Jain	32	H.S	4
20.	"	K.C. Malviya	24	H.S	3

3.8 Procedure of Data Collection

The data were collected by observing four lessons of each of the 35 teachers selected for the study. The teachers and observers were oriented beforehand for this programme of data collection in a two days' meeting. The four lessons observed included : (1) National Flag and National Anthem; (2) Balanced Diet; (3) Elementary Numbers, Concepts and Operations; and (4) Organising a Book Exhibition or Organising Teaching Programme at NFE Centres where lessons on Rocks, Soil and Minerals were given.

Five teachers of the Rajgarh sample were observed on four lessons each on two days. However, due to some difficulties the remaining ten teachers were observed on three lessons only. During the observations the lessons were recorded on a tape. These tapes were played so as to prepare the lesson scripts. (The lesson scripts show the context under which the data were collected).

All the 20 teachers of the Bhopal sample were observed on all the four lessons and the observations were duly recorded on the observation sheets.

3.9 Orientation of Teachers for the Observation Programme

The 15 teachers of the Rajgarh sample were oriented for the observation programme in a two days' workshop held at Rajgarh. The objectives of the workshop were : (1) To orient the NFE teachers about the observation of lessons and to bring clarity about related ideas and

concepts; (2) To orient them about the concepts given in four lessons selected for teaching. (The performance of teachers on these lessons were to be observed afterwards); and (3) To train the observers for recording their observations on the specially prepared observation scales/schedules.

The twenty school teachers of the Bhopal sample were also oriented for the observation programmes. The teachers were asked to do their best in the teaching of lessons assigned to them. They were introduced to the lessons to be covered through a specially prepared handbook/manual. The selected skills, observation scales and the content of the lessons were thoroughly discussed. The concepts of teaching competence and teaching effectiveness were also discussed. Practical demonstrations of the lessons were also organised.

3.10 Orientation and Training of Observers

The related concepts and schedules were thoroughly discussed with the observers. The observers were given a practice of 3 sessions for each of the observation schedules. Inter observer reliabilities were obtained after this by taking their observations. Inter-observer compatibilities were ensured for each of the five schedules. However, perfect inter-observer reliabilities could not be assumed and it had to be assumed that the observers would improve in the course of their observations of teaching. Special discussions were held regularly in between the sessions for this purpose through out the duration of the study.

3.11 Analysis of the Data

The data were collected by observing three lessons of each of the 15 selected teachers from the Rajgarh sample and four lessons of each of the 20 teachers from the Bhopal sample. The observations were recorded in the relevant schedules. The data obtained from Rajgarh sample was then tabulated by entering the scores of the 15 teachers in a 15x200 matrix where the columns represented the behaviour dimensions observed for the purpose. The same procedure was followed for the 20 teachers of the Bhopal sample. Means and SDs were obtained for each of the observed behavioural components alongwith the above defined variables. On the basis of the scores of the teachers on the General Teaching Effectiveness Scale (GTES), four most effective and four least effective teachers were identified and their means were compared for determining the significance of discrimination, using that technique for all other behaviours observed in the study. The correlation matrix was also analysed.

Findings And Their Interpretation

4.1 Introduction

This chapter gives the findings and their interpretations regarding the teaching skills. These skills are presented along with the interpretations under the following three clusters :

- (1) Presentation Skills Cluster
- (2) Developmental Skills Cluster
- (3) Giving Assignments and Supervisory Skills Cluster

Correlation sub-matrices for the respective clusters from the master matrix are also presented. The sub-matrices represent the extent of validity to which the observations may be assumed to be true.

4.2. Analysis of Intercorrelations

Table 4.1 represents the inter-correlations among the observed 24 skills for the Rajgarh sample. The correlations of the scores on 24 skills with the General Teaching Effectiveness (GTE) scores are given in Table 4.2.

Correlation coefficients above 0.52 for $df=13$ are taken as significant. On the basis of this criteria the following seven skills have been identified which are instrumental in imparting effective instruction :

- | | |
|-------------------------------------|---|
| (1) Skill of Story-Telling | (2) Skill of Explaining |
| (3) Skill of Fluency in Questioning | (4) Skill of Developing Handwriting |
| (5) Skill of Using Blackboard | (6) Skill of Illustrating With Examples |
| (7) Skill of Giving Classwork. | |

4.3. Clustering of Skills

Tables 4.3 (a), 4.3 (b), 4.3 (c) and 4.3 (d) represent the clusters of skills of three categories namely, presentation, developmental and giving assignment and supervising class-work skills on the basis of statistical criterion. However, the cluster of presentation skills has been further classified into two categories according to the nature of skills involved. It is found that a few skills occur in both the subgroups of the cluster of presentation skills.

Table 4.1. Correlation matrix giving inter-correlations among the 24 observed skills.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	L	32	48	22	49	78	49	45	51	46	56	55	29	59	65	50	38	34	74	72	50	27	17	18
2		L	42	80	74	58	68	84	51	24	07	43	25	44	45	14	01	39	14	40	19	40	13	50
3			L	38	57	58	39	54	71	22	35	47	12	47	56	35	36	06	11	05	58	04	09	29
4				L	64	44	67	59	08	08	09	34	35	18	29	19	37	25	05	28	18	32	06	37
5					L	58	84	49	46	31	26	29	23	58	44	26	34	40	31	44	18	40	16	45
6						L	53	66	52	48	43	47	42	71	74	60	70	01	02	23	25	17	05	46
7							L	72	34	37	11	23	08	52	42	20	25	40	15	41	27	45	20	43
8								L	32	45	34	69	51	64	77	50	59	20	01	25	40	09	20	40
9									L	61	65	27	27	62	62	65	34	33	21	33	55	42	55	42
10										L	45	22	57	68	63	80	55	46	16	55	51	67	51	63
11											L	60	36	55	79	85	48	37	19	46	21	22	64	09
12												L	54	62	71	06	66	28	91	51	55	02	29	69
13													L	42	62	65	55	24	25	52	55	42	47	50
14														L	86	69	61	42	41	58	63	24	48	33
15															L	79	85	23	16	44	59	22	35	29
16																L	68	29	06	47	54	39	57	38
17																	L	22	12	42	27	28	04	40
18																		L	55	66	74	16	71	37
19																			L	91	45	20	44	11
20																				L	58	68	53	40
21																					L	33	88	18
22																						L	13	71
23																							L	42
24																								L

Note : (1) Correlation coefficient of 0.52 and above is taken as significant.

(2) Decimals have not been given before the figures.

Table 4. 2 Correlation coefficients of the 24 observed skills with general teaching effectiveness scores of Rajgarh sample.

Skill No.	Description of the Skill	Correlation Coefficient (r)
1.	Skill of Introducing a Lesson	0. 29
2.	Skill of Demonstration in Reading	0. 34
3.	Skill of Developing Analytical Reading	0. 36
4.	Skill of Developing Reading for Comprehension	0. 20
5.	Skill of Developing Emotional Reading	0. 31
6.	Skill of Story-Telling	0. 66
7.	Skill of Describing	0. 36
8.	Skill of Explaining	0. 67
9.	Skill of Developing Reading	0. 48
10.	Skill of Fluency in Questioning	0. 56
11.	Skill of Probing Questioning	0. 39
12.	Skill of Developing Handwriting	0. 54
13.	Skill of Using Blackboard	0. 67
14.	Skill of Illustrating With Examples	0. 70
15.	Skill of Giving Classwork	0. 68
16.	Skill of Recapitulation	0. 50
17.	Skill of Giving Homework	0. 50
18.	Skill of Developing Letter Writing (Alphabets)	0. 06
19.	Skill of Demonstrating	0. 26
20.	Skill of Supervising Classwork	0. 27
21.	Skill of Developing Number Operations	0. 50
22.	Skill of Class Supervision	0. 12
23.	Skill of Developing Number Concepts	0. 35
24.	Skill of Giving Dictation	0. 51

Table 4.3 (a) Correlation Matrix giving Cluster of Presentation Skills-One

S. No.	Skill	1	2	3	4	5	6	7	8
1.	Skill of Introducing a Lesson (1)	—	320	782	490	452	453	288	594
2.	Skill of Demonstrating Reading (2)		—	682	678	838	236	252	443
3.	Skill of Story-Telling (6)			—	531	663	483	423	713
4.	Skill of Describing (7)				—	719	373	075	519
5.	Skill of Explaining (8)					—	451	510	660
6.	Skill of Fluency in Questioning (10)						—	567	678
7.	Skill of Using Blackboard (13)							—	419
8.	Skill of Illustrating With Example (14)								—

Note : Decimals have not been given before the figures.

Table 4.3 (b) Correlation Matrix Giving Cluster of Presentation Skills- Two

S. No.	Skill	1	2	3	4	5	6	7
1.	Skill of Describing (7)	—	719	373	106	075	519	146
2.	Skill of Explaining (8)		—	451	341	510	664	014
3.	Skill of Fluency in Questioning (10)			—	475	567	678	155
4.	Skill of Probing Questioning (11)				—	361	551	194
5.	Skill of Illustrating With Example (13)					—	419	252
6.	Skill of Using Blackboard (14)						—	406
7.	Skill of Demonstrating (9)							—

Note : Decimals have not been given before the figures.

Table 4.3 (c) Correlation Matrix Giving Cluster of Developmental Skills

S. No.	Skill	1	2	3	4	5	6	7	8
1.	Skill of Developing Analytical Reading (3)	—	383	572	712	469	063	665	092
2.	Skill of Developing Reading for Comprehension (4)		—	638	078	344	245	181	055
3.	Skill of Developing Reading for Emotional Effects (5)			—	460	290	395	179	158
4.	Skill of Developing Reading (9)				—	272	325	553	545
5.	Skill of Developing Handwriting (12)					—	276	547	287
6.	Skill of Developing Letter Writing (18)						—	742	707
7.	Skill of Developing Number Operation (21)							—	877
8.	Skill of Developing Number Concepts (23)								—

Note : Decimals have not been given before the figures.

Table 4.3.(c) Correlation Matrix of Cluster of Giving Assignments and Supervisory Skills

Sr. No.	Skill	1	2	3	4	5
1	Skill of Giving Class-work (15)	—	846	439	221	390
2	Skill of Giving Home-Work (17)		—	418	283	401
3	Skill of Supervising Class-Work (20)			—	678	403
4	Skill of Class Supervision (22)				—	706
5	Skill of Giving Dictation (24)					—

Note : Decimal have not been given before the figures.

4.4. Findings Related to the Skills

In the present study data have been collected and interpreted with regard to the following objectives :

- (1) To describe the level of skills at which the NFE centre and formal school teachers are functioning in their class rooms ;
- (2) To identify the areas in which the NFE centre teachers are weak and in which special training is required by them; and
- (3) To bring about a list of instructional skills needed by the NFE centre teachers.

The level at which the teachers of Rajgarh and Bhopal samples are functioning is presented in separate tables for each skill. The mean, standard deviation (SD) and t-values to show the differences between four most effective and four least effective teachers in case of Rajgarh sample, and six most and six least effective teachers in case of Bhopal sample are also presented in these tables. In order to identify weaker areas in teaching skills of NFE teachers, two strategies have been adopted. First, those behaviours and skills are identified whose average performance level is below 5.0. Priority in training in these skills is, therefore, recommended. Secondly, to compare the performance of four most effective and four least effective teachers in case of the Rajgarh sample (N=15), and 6 most effective and 6 least effective

teachers in case of Bhopal sample ($N=20$), 't'-values were computed. If a given 't'-value is significant, it means giving more training to the less effective teachers in the corresponding behaviours in order to make them more effective. A non-significant 't'-value means that more training to effective teachers over corresponding behaviours is desirable.

The teachers of Rajgarh sample were observed for about five minutes for each of the skills and scores were awarded accordingly which represented the total score for that skill. Similarly in the case of Bhopal Sample, the sum total of scores of all the components of each of the skills was taken to be the total score for that skill.

The skill-wise analysis of data which is presented in three clusters, namely; Presentation Skills Cluster; Developmental Skills Cluster; and Giving Assignments and Supervisory Skills Cluster is given in the following sections.

4.5. Presentation Skills Cluster

Presentation skills form a cluster which are related to the behaviours of improving the presentation of the subject matter by the teachers. Teaching in these behaviours is supposed to improve the presentation of ideas by the teachers. The Skill of Describing, Skill of Explaining, Skill of Demonstrating, Skill of Questioning, Skill of Reviewing and Skill of Introducing all form part of this important cluster. Research studies in this area are available in large number. Characteristics of 'good explainers' and 'good questioners' in the classroom seem to have been explored sufficiently. Analysis and discussion given below presents a vivid description and some explanation in this direction.

4.5.1. Skill of Introducing a Lesson

Generally, introduction to a lesson includes what the teacher does with or without the help of the pupils upto the stage of stating the aim of the lesson. Studies have shown that pupils' learning of a new lesson or a unit largely depends on the way the lesson is introduced. It requires a skill on the part of a teacher to introduce a lesson or unit.

In the present study this skill is observed with regard to the following five components :

- (1) Relevance of teacher's questions and activities to previous knowledge of students ;
- (2) Selection of proper activities ;
- (3) Selection of natural activities ;
- (4) Students' participation and co-operation ; and
- (5) General effectiveness of the introduction.

An introduction is generally based upon previous knowledge of the pupils. It can be based upon some story or a real life situation. Whether to base it upon the previously learnt subject matter or relate it to some real life situations is the choice of the teacher. Hence in this skill the first two components were observed separately. Further, the activities in the introductory session were related to the specific purpose of gaining pupils' attention and arousing their curiosity. The skill was observed on the basis of the above mentioned five components and the related data are presented in Tables 4.4. and 4.5. These tables give Means and SDs of each of the components of skill of introducing a lesson and difference in t-values between the least and most effective teachers of Rajgarh (N=15) and Bhopal (N=20) samples.

Table 4.4. Skill of Introducing a Lesson (Rajgarh Sample).

S. No.	Components	Mean	SD	t-Value for df=3
1.	शिक्षक के प्रश्नों एवं क्रियाओं का छात्रों के पूर्व ज्ञान से सम्बन्ध	5.60	1.50	0.39
2.	उचित क्रियाओं का चयन	4.87	1.58	1.19NS
3.	सहज क्रियाओं का चुनाव	5.33	1.74	2.02
4.	छात्रों के उत्तर एवं सहभाग	5.13	1.59	1.02NS
5.	पाठ प्रस्तावना की सामान्य प्रभाविता	5.60	1.36	1.93
Total		26.53	5.01	0.89NS

Table 4.5. Skill of Introducing a Lesson (Bhopal Sample)

S. No.	Component	Mean	SD	t-value for df=5
1.	शिक्षक के प्रश्नों एवं क्रियाओं का छात्रों के पूर्वज्ञान से सम्बन्ध	6.39	0.84	3.26
2.	उचित क्रियाओं का चुनाव	5.45	1.07	3.85*
3.	सहज क्रियाओं का चुनाव	5.50	1.07	3.85*
4.	छात्रों के उत्तर एवं सहभाग	5.15	1.05	1.38
5.	पाठ प्रस्तावना की सामान्य प्रभाविता	5.80	1.08	3.42*
Total		28.20	4.771	3.79*

* Significant at the acceptable level

NS : Non significant

From Table 4.4 it is observed that the aggregate of the mean scores of this skill was 26.55 with a SD of 5.01. The obtained 't'-value of 0.89, to compare the level of performance of most effective and least effective teachers, is insignificant. It may be observed that all the components except selection of proper activities with mean of 4.87 have a mean above 5.0. The obtained t-values for different components indicate the need of training in this skill.

From Table 4.5 it was observed that the aggregate of mean scores of teachers of Bhopal sample was found to be 28.20 with SD of 4.77. All the components have a mean of above 5.0. Thus it indicates that the teachers of Bhopal sample are quite good in using this skill.¹

Except in one component, namely, students' participation and co-operation, where the 't'-value is significant ($t=1.38$) all the other 't'-values, in order to compare the level of performance of six most effective and six least teachers, are significant indicating that the least effective teachers need training in these components.

4.5.2 Skill of Describing :

The skill of describing is the set of those desirable teacher behaviours which a teacher demonstrates when he tells, something about an object or scene in the classroom. It is defined in terms of the following components :

1. Proper selection of terminology/language;
2. Proper variation of tone;
3. Proper gesturisation;
4. Proper use and introduction of new words;
5. Maintenance of fluency; and
6. General effectiveness.

A good description has to be vivid, simple and interesting. It should cover all relevant technical terminology and should cover inter-relationships among parts of the events, things or situations described. Its presentation, if supplemented with occasional dramatisation, is bound to be interesting. The skill was observed on the basis of the above components and the related data are presented in Tables 4.6 and 4.7. These tables give Means and SDs for each of the components of skill of describing a lesson and the difference in 't'-values between the least and most effective teachers of Rajgarh ($N=20$) sample.

Table 4.6 Skill of Describing a Lesson (Rajgarh Sample)

S. No.	Components	Mean	SD	't'—value for df=3
1.	भाषा का उचित चयन			
2.	शब्दों पर उचित बल परिवर्तन	5.87	1.26	0.40*
3.	प्रवाहिता बनाये रखना	5.67	1.20	0.33*
4.	उचित हावभाव प्रदर्शन	5.33	1.26	1.33*
5.	नये शब्दों का उचित प्रयोग	4.67	1.25	0.63*
6.	कक्षा पर सामान्य प्रभाव	5.13	1.02	0.56*
		5.73	0.85	1.12*
Total		32.4	5.63	0.63*

* Not-significant

Table 4.7 Skill of Describing a Lesson (Bhopal Sample)

S. No.	Components	Mean	SD	't'—value for df=5
1.	भाषा का उचित चयन			
2.	शब्दों पर उचित बल परिवर्तन	5.80	1.17	2.74*
3.	प्रवाहिता बनाये रखना	5.70	1.10	2.07*
4.	उचित हावभाव प्रदर्शन	5.60	1.20	2.72**
5.	नये शब्दों का उचित प्रयोग	5.05	1.20	1.63*
6.	कक्षा पर सामान्य प्रभाव	5.20	1.29	2.42**
		5.75	1.13	2.07**
Total		33.10	6.72	2.00***

* Significant at .20 level
 ** Significant at .10 level
 *** Significant at .05 level

The aggregate of mean ratings of the teachers of Rajgarh sample was observed to be 32.40 and SD as 5.63. The only component with mean below 5.0 was found to be proper use of gestures. Proper stress on words was found to be another weak component.

From Table 4.7 it is observed that all the components have a mean above 5.0. The aggregate of mean scores of the teachers on this skill was found to be 33.10 and SD 6.72. All the 't'-values, to compare the performance of most effective and least effective teachers, are found to have significant difference.

4.5.3 Skill of Explaining :

Generally a teacher is said to be good at explaining when he is describing 'How', 'Why' and sometimes 'What' of a concept, phenomenon, event, action or condition. Explaining involves filling up the gaps in his understanding of the phenomenon by relating it to his past experience. Thus explaining depends upon the type of past experience, the type of new phenomenon and the type of relationship between them. In a classroom, an explanation is a set of inter-related statements made by the teacher relating to a phenomenon or an idea, in order to bring about an increased understanding among the pupil's.

In short, we can say that the skill of explaining is the cluster of those desirable teacher behaviours which occur when a teacher explains some cause-effect relationship or about the functioning of something to the students. It is defined in terms of the following components :

1. Proper use of beginning words and phrases;
2. Proper use of linking words and phrases;
3. Proper use of concluding, terminating words and phrases;
4. Maintaining relevancy of words;
5. Maintaining fluency;
6. Maintaining clarity;
7. Testing students' understanding; and
8. General effectiveness of understanding.

The skill of explaining involves maximizing the use of desirable teacher behaviours namely, using explaining links, using beginning and concluding statements and testing pupils' understanding and avoiding the use of undesirable teacher behaviours namely, stating irrelevant statements, lack of continuity in statements, inappropriate vocabulary, lack in fluency and using vague words and phrases. In short fluency, logical relevance and continuity alone can make any explanation clear and interesting.

This skill was observed on the above components and the related statistics are given in Tables 4.8 and 4.9. These tables give Means and SDs of each of the components of skill of explaining and the difference, in t-values, between the most and least effective teachers of Rajgarh and Bhopal samples. The mean ratings of the Rajgarh sample in this skill was found to be 42.08 and SD as 6.16. The weaker components, having a mean below 5.0, are found to be 'use of linking words and phrases', 'proper use of concluding words and phrases' and 'testing students' understanding'.

Table 4.8 Skill of Explaining (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df = 3
1.	प्रारम्भिक शब्दों का उचित प्रयोग	5.20	1.11	0.73 NS
2.	सम्बन्ध दर्शक शब्दों का उचित प्रयोग	4.71	1.00	1.82 *
3.	अन्तर्दर्शक शब्दों का उचित प्रयोग	4.67	1.62	0.40 NS
4.	विषय वस्तु की सम्बद्धता बनाये रखना	5.87	1.24	0.22 NS
5.	उचित प्रवाहशीलता बनाये रखना	5.80	1.11	4.50 ***
6.	उचित स्पष्टता बनाये रखना	5.87	1.15	0.63 NS
7.	छात्र समझ की जाँच करना	4.73	1.06	0.74 NS
8.	समझाने की सामान्य प्रभाविता	5.67	1.25	1.16 NS
Total		42.08	6.16	2.30 *

Table 4.9 Skill of Explaining [Bhopal Sample]

S. No.	Components	Mean	SD	't'-value for df=5
1.	प्रारम्भिक शब्दों का उचित प्रयोग	5.45	1.28	2.07
2.	सम्बन्धदर्शक शब्दों का उचित प्रयोग	4.8	1.25	0.81
3.	अन्तर्दर्शक शब्दों का उचित प्रयोग	4.65	1.27	2.15 ***
4.	विषय वस्तु की सम्बद्धता बनाये रखना	5.5	1.28	2.51 **
5.	उचित प्रभावशीलता बनाये रखना	5.4	1.11	2.07 **
7.	उचित स्पष्टता बनाये रखना	5.35	1.27	2.55 ***
7.	छात्र समझ की जाँच करना	5.15	1.10	2.76
8.	समझाने की सामान्य प्रभाविता	5.5	1.36	3.22
Total		41.80	9.48	2.84

NS=Not-Significant

* Sig at .20 level

** „ „ .10 level

*** „ „ .05 level

It is evident from Table 4.9 that the aggregate of mean scores of the Bhopal sample on this skill was 41.8 with a standard deviation of 9.48. All the components, except two, namely, 'proper use of linking words and phrases' and 'proper use of concluding, terminating words and phrases', all other components have a mean greater than 5.0. The 't'-value indicates that there is a significant difference in the performance of the most effective and the least effective teachers, meaning thereby that training of the least effective teachers in this skill will make them more effective.

4.5.4. Skill of Fluency in Questioning :

One of the most popular skills in teacher training is the skill of questioning. Questioning is an important teaching skill that a teacher must learn. One of the aspect of this skill is the 'fluency in questioning'. By fluency we mean the number of questions put per unit time. The skill of fluency in questioning involves asking as many meaningful questions as possible within a given unit of time. A question is said to be meaningful if it is : (i)

well-structured, grammatically correct, relevant, specific and concise; and (ii) put in a proper way with proper speed, pause and in a suitable voice.

The skill of fluency in questioning may be defined as the set of those teacher behaviours which appear when a teacher conducts a questioning exercise in the class so that maximum pupil participation occurs. The skill may be defined in terms of the following components :

1. Asking correct and relevant questions;
2. Asking specific and clear questions;
3. Proper speed of questioning;
4. Equal distribution of questions in a class;
5. Simple to complex questions; and
6. Sufficient number of questions.

The skill was observed on the basis of the above components and the related statistics are presented in Tables 4.10 and 4.11. These tables give Means and SDs of each of the components of skill of questioning and the difference, in 't'-values, between the most and least effective teachers of Rajgarh and Bhopal samples

Table 4.10. Skill of Fluency in Questioning (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=4
1.	सही एवं सुसम्बद्ध प्रश्न	5.73	1.24	2.44**
2.	विशिष्ट एवं स्पष्ट प्रश्न	5.93	1.51	0.48 NS
3.	प्रश्न पूछने की गति	5.60	1.20	0.88 NS
4.	प्रश्नों का कक्षा में उचित वितरण	5.87	1.41	0.44 NS
5.	सरल से कठिन प्रश्न	5.33	1.25	4.01 NS
6.	पर्याप्त मात्रा में प्रश्न	5.60	0.95	0.44 NS
Total		34.08	5.07	0.87 NS

Table 4.11 Skill of Fluency in Questioning (Bhopal Sample)

S.No.	Components	Mean	SD	't'-value for df=5
1.	सही एवं सुसम्बद्ध प्रश्न	5.5	1.07	1.85*
2.	विशिष्ट एवं स्पष्ट प्रश्न	5.2	1.19	1.49*
3.	प्रश्न पूछने की गति	5.55	1.40	2.84***
4.	प्रश्नों का कक्षा में उचित वितरण	5.5	1.43	2.82***
5.	सरल से कठिन प्रश्न	5.3	1.23	2.82***
6.	पर्याप्त मात्रा में प्रश्न	5.1	1.23	1.75*
Total		31.70	6.65	2.06**

NS=Not Significant

* Sig at .20 Level
 ** Sig at .10 Level
 *** " " .05 Level

It is clear from Table 4.10 that the mean of all the components is greater than 5.0. The aggregate of the mean scores of Rajgarh sample for this skill was found to be 34.08 with a SD of 5.07. It is clear that the performance of the teachers in this skill is quite satisfactory. The most effective teachers seem to ask more correct and relevant questions as indicated by the 't'-value (2.44), which is significant at 10 level. In all other components, the 't'-values are insignificant.

From Table 4.11 it is observed that the aggregate of the mean scores of the teachers of Bhopal sample on this skill was 31.7 with a SD 6.65. The 't'-value of 2.08 is significant at .10 level. All the components have a mean greater than 5.0, thus again indicating that the performance of teachers in this skill is also quite satisfactory.

4.5.5 Skill of Probing Questioning :

This skill involves going deep into a pupil's responses by asking a series of subsequent questions to know whether the pupil has really understood the concept or has answered the questions merely by guess work. It also aims at diagnosing about the students' difficulties. The importance of this skill lies in the fact that even though a pupil has given a wrong or partially correct answer, he is not only led to the criterion response but is also made

aware as to why he is wrong without resorting to any punishment. Secondly, in the case of correct responses, the pupil is made to apply his mind for getting solutions of similar other situations. The skill may be defined in terms of the following components :

- (1) Prompting questions;
- (2) Seeking further information;
- (3) Redirection;
- (4) Refocussing;
- (5) Increasing critical awareness;
- (6) Questions to test students' understanding.

The effective teachers give hints, or prompt or use prompting techniques in helping the pupils to reach the criterion response. Such a behaviour on the part of the teacher encourages the pupils to respond correctly. Thus a related question which helps to get the correct answer of previously unanswered question is called a prompting question. A question which is asked for getting additional information may be called seeking further information type questions. The technique of seeking further information helps the pupil to proceed from partially correct response to the correct or criterion response. Sometime this technique is used even if the pupil's response is completely correct to check if he has responded merely by guess work.

In case the pupil does not pick up the hint, the same question is put to a different student. This is called redirection. Sometimes another question is asked from the same student for going into more depth to know 'How' & 'Why' of the answer. Such types of questions help in increasing critical awareness of the pupils.

It is also found that the effective teachers help the students to view their responses from a broader perspective. The teacher helps the pupil to correlate his response to another similar situation. It is called re-focussing. Such a behaviour helps the pupil to develop critical thinking.

A question which tests understanding of the question by the pupil is labelled as a question to test students' understanding.

All the components of this skill were observed to assess the performance of teachers in using this skill. The related data are presented in Tables 4.12 & 4.13.

Table 4.12 Skill of Probing Questioning (Rajgarh Sample)

S. No.	Components	Mean	SD	't'—valu for df= e 3
1.	सूचक प्रश्न	4.80	1.96	0.62NS
2.	अधिक तथ्यखोजी प्रश्न	5.00	1.30	0.55NS
3.	पुन निर्देशन प्रश्न	5.07	2.59	0.30NS
4.	पुनर्केन्द्रीयकरण प्रश्न	4.40	1.50	0.58NS
5.	समीक्षात्मक अभिवृद्धि प्रश्न	4.40	1.20	0.43NS
6.	छात्र मूल्यांकन प्रश्न	5.27	2.26	0.67NS
Total		28.94	6.59	3.60NS

Table 4.13 Skill of Probing Questioning (Bhopal Sample)

S. No.	Components	Mean	SD	't' - value for df=5
1.	सूचक प्रश्न	5.00	1.45	1.34NS
2.	अधिक तथ्यखोजी प्रश्न	4.40	1.92	1.39NS
3.	पुन निर्देशन प्रश्न	4.25	1.44	1.24NS
4.	पुन केन्द्रियकरण	4.05	1.78	1.77*
5.	समीक्षात्मक अभिवृद्धि प्रश्न	4.65	1.53	1.23NS
6.	छात्र मूल्यांकन प्रश्न	5.30	0.95	1.65*
Total		27.65	8.924	3.05***

NS Non Significant
 * Sig at .20 level
 *** Sig at .05 level

From Table 4.12 we find that the aggregate of mean scores for the Rajgarh Sample is 28.94 with a SD of 6.59. It appears that the teachers are lacking in this skill. The components which have a mean below 5.0 are prompting, refocussing and increasing critical awareness type questions. All the corresponding t-values are insignificant. It appears that both effective and less effective teachers need further training in this area.

From Table 4.13 it is observed that the aggregate of mean scores of the Bhopal sample is 27.65 with SD of 8.92. Here too we notice that except in two components namely, asking prompting questions and questions for testing students' understanding the other components have a mean below 5.0. The obtained t-value is significant at .05 level, indicating that training to least effective teachers over the corresponding behaviours will make them more effective.

4.5.6 Skill of Illustrating with Examples :

This skill of illustrating with examples helps to bring clarity, simplicity and interest in teaching. This skill is important as it takes learners from known to unknown. It also involves the principle of maintaining interest and securing attention of pupils. The skill of illustrating with examples involves describing an idea, concept or principle by using examples from daily life. The skill of illustrating with examples involves two aspects, one related to the formulation of examples used and the other the way it is presented. The following are the important components of this skill :

- (1) Giving simple examples;
- (2) Giving examples relevant to the idea or rule;
- (3) Using interesting examples;
- (4) Using appropriate media for examples;
- (5) Using examples by inductive-deductive approach;
- (6) Asking students to give examples;
- (7) Giving sufficient number of examples; and
- (8) Testing students' understanding.

All the above components were observed and assessed in the present study. The related data are given in Tables 4.14 and 4.15,

Table 4.14 Skill of Illustrating With Examples (Rajgarh Sample)

S.No.	Components	Mean	SD	't'-value for df=3
1.	सरल उदाहरणों का अनुप्रयोग	5.00	0.81	1.31
2.	सुसम्बद्ध उदाहरणों का अनुप्रयोग	4.30	1.62	1.47
3.	रुचिपूर्ण उदाहरणों का अनुप्रयोग	4.60	1.54	1.33
4.	उचित माध्यम द्वारा प्रदर्शित उदाहरण	4.47	1.41	1.45
5.	आगमन निगमन विधि का प्रयोग	4.00	1.71	1.02
6.	छात्रों से उदाहरण निकलवाना	4.30	1.87	1.38
7.	पर्याप्त मात्रा में उदाहरण	4.63	1.53	0.83
8.	छात्र समझ की जाँच	5.00	0.94	0.22
Total		36.80	10.29	1.42

Table 4.15 Skill of Illustrating With Examples (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	सरल उदाहरणों का अनुप्रयोग	5.30	1.00	1.87 *
2.	सुसम्बद्ध उदाहरणों का अनुप्रयोग	4.45	1.16	2.26 **
3.	रुचिपूर्ण उदाहरणों का अनुप्रयोग	4.50	1.24	2.91 ***
4.	उचित माध्यम द्वारा प्रदर्शित उदाहरण	5.00	1.10	1.95 *
5.	आगमन निगमन का प्रयोग	4.05	1.24	2.37 **
7.	छात्रों से उदाहरण निकलवाना	4.85	1.07	2.00 *
7.	पर्याप्त मात्रा में उदाहरण	4.70	1.78	2.39 **
8.	छात्र समझ की जाँच	5.10	0.94	2.24 **
Total		37.95	8.38	2.62 ***

* Sig at .20 level
 ** Sig at .10 level
 *** Sig at .05 level

From Table 4.14 it is clear that the aggregate of mean scores is 36.80 with SD of 10.29. Except two components namely, use of simple examples and testing students' understanding which have a mean of 5.0, the other components have a mean below 5.0. This indicates that the teachers are lacking in this skill also and need an exhaustive training. The effective teachers seem to make a better use of the relevant examples and illustrate them properly. In addition, they seem to use inductive-deductive method in a better way than effective teachers as indicated by higher 't-value' which is significant. These are the special areas where less effective teachers need special training.

From Table 4.15 it is clear that the aggregate of mean scores of Bhopal sample in this skill is 37.95 with SD of 8.38. Except for three components namely, use of simple examples, using appropriate media and testing students' understanding, which have a mean greater than 5.0, the other components have a mean below than 5.0.

This shows that the teachers are not proficient in using this skill and thus need training in this skill. The observed t-value is significant at 0.05 level.

4.5.7 Skill of Demonstrating :

Demonstration is an important component of effective teaching. It helps the learners in making minute observations. Using teaching aids and making their proper use for demonstration is another aspect for teaching at the NFE centres. A good teacher must also be a good demonstrator and he should develop expertise in this. The skill of demonstrating may be defined as the set of those teacher behaviours which are associated when a teacher conducts some practical session in the class while teaching. He may demonstrate an experiment or demonstrate some act to be practised by the students later. The skill may be defined in terms of the following components :

- (1) To prepare the background;
- (2) To collect aids and materials, to arrange them properly and explain their uses;
- (3) To explain the functions and uses of aids;
- (4) To review the main teaching points while demonstrating; and
- (5) To ask relevant questions.

The skill was observed and the teachers' performance was assessed on the above components. The related data are presented in Table 4.16.

Table 4.16 Skill of Demonstrating (Rajgarh Sample).

S. No.	Components	Mean	SD	t'-Value for df=3
1.	भूमिका बनाना	5.47	1.59	0.14
2.	सामग्री जुटाना, क्रमबद्ध ढंग से व्यवस्थित करना एवं समझाना	4.33	2.02	1.10
3.	सामग्री के हिस्सों के उपयोग को समझाना	4.13	1.80	0.21
4.	अध्यापन के मुख्य बिन्दुओं का पुनरावलोकन करना	4.73	1.77	0.10
5.	सम्बन्धित महत्वपूर्ण प्रश्न पूछना	4.93	1.65	0.44
Total		23.59	7.75	0.45

The aggregate of mean scores on this skill was found to be 23.59 with SD of 7.75. It indicates that the teachers lack the use of this skill and need special training. Except in the case of one component namely, to prepare the background, all other components have a mean below 5.0. Teachers need special training in all these behaviours.

In the case of Bhopal sample, except for two teachers, others have not made use of this skill. The teachers are aware of the skill of demonstrating. They pointed out that due to lack of materials and teaching aids, they could not teach the children by using the skill of demonstrating. They even blamed the educational authorities for not providing any teaching aids to the schools.

4.5.8 Skill of Using Blackboard :

Blackboard is the visual and most widely used aid by any teacher for classroom instruction. It is mostly used to summarise ideas while teaching. Its proper use certainly makes teaching effective and attractive as well. Hence the skill of using blackboard is most important in teaching. The components of the skill of using blackboard are :

- (1) Legibility of handwriting;
- (2) Neatness in the blackboard work; and
- (3) Appropriateness of written work on the blackboard.

For its proper use, a good teacher should possess certain skills. He should learn to use blackboard in a planned and purposeful way. It should be used in an attractive way as

well. Therefore, the following components are visualised as the necessary aspects of the skill of using blackboard which may be defined as a set of those teacher behaviours which are associated when a teacher uses blackboard with a view to making teaching more effective.

- (1) Legibility of the writing.
- (2) Size of alphabet letters;
- (3) Proper spacing between words and letters;
- (4) Maintaining continuity of content matter;
- (5) Attractiveness of the work;
- (6) Proper organisation of contents; and
- (6) Class control while using the blackboard.

The mean performance and other data related to the skill of using blackboard are reported in Tables 4.17 and 4.18.

Table 4.17. Skill of Using Blackboard (Rajgarh Sample)

S. No.	Component	Mean	SD	't'-value for df=3
1.	अक्षरों की स्पष्टता	6.13	1.02	1.82 *
2.	अक्षरों का आकार	6.20	1.33	0.52 NS
3.	अक्षरों एवं शब्दों के मध्य उचित स्थान	5.47	1.15	0.46 NS
4.	विषय की सततता बनाये रखना	5.27	1.24	2.50 ***
5.	विषय वस्तु का उचित संगठन	5.27	1.24	1.23 NS
6.	कार्य की आकर्षकता	5.40	1.25	0.98 NS
7.	कक्षा नियंत्रण	6.40	0.80	2.58 **
Total		40.14	6.47	2.66**

Table 4.18. Skill of Using Blackboard (Bhopal Sample)

S.No.	Components	Mean	SD	't'-value for df=5
1.	अक्षरों की स्पष्टता	5.8	0.87	2.04***
2.	अक्षरों का आकार	5.6	0.92	1.79 *
3.	अक्षरों एवं शब्दों के मध्य उचित स्थान	5.4	1.02	1.64 *
4.	विषय की सततता बनाये रखना	5.6	1.16	2.38 **
5.	विषय वस्तु की उचित संगठन	5.3	1.27	2.81 *
6.	कार्य की आकर्षकता	5.2	1.12	1.95
7.	कक्षा नियंत्रण	5.3	1.01	1.44
Total		38.20	6.73	2.12 **

NS : Non significant
 * Sig at .20 Level
 ** Sig at .10 Level

It is evident from the above tables that the teachers are quite good in this skill because all the components have a mean of above 5.0.

From Table 4.18 it is observed that the aggregate of mean scores of teachers in using this skill is 38.20 with a standard deviation of 6.73. All the components have a mean of above 5.0. The obtained 't'-value to compare the performance of most effective and least effective teachers is significant at .10 level indicating that training to least effective teachers in this skill will make them more effective.

4.5.9 Skill of Story-Telling :

The skill of story-telling is defined as that cluster of teacher behaviours which may be produced with all effectiveness when a teacher tells or narrates a concept or incident in the classroom. It is a well known fact that small children take more interest in listening to stories. This skill is, therefore, more important for the primary school teachers or NFE centre teachers. Proper dramatisation and gesturisation can make any situation lively and the teachers should receive training in the following components for the development of this skill :

- (1) Proper gestures;
- (2) Proper speech and tone variation;

- (3) Proper acting and dramatisation;
- (4) Paying attention to students;
- (5) Drawing suitable conclusions;
- (6) Selection of relevant events;
- (7) Selection of relevant story; and
- (8) Entertaining effectiveness.

The skill was observed and assessed for the above components and the related data are presented in Table 4.19

Table 4.19 Skill of Story Telling (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	उचित हावभाव	4.67	1.30	1.27
2.	उचित स्वरारोह	4.93	1.39	1.27
3.	उचित अभिव्यक्ति नाट्यीकरण	4.73	1.00	0.93
4.	छात्रों पर उचित ध्यान	5.73	1.57	0.32
5.	उचित निष्कर्ष एवं अवबोधन	5.27	1.53	0.68
6.	घटना का उचित समावेश	5.13	1.43	1.05
7.	कहानी का उचित चयन	4.40	1.58	1.50
8.	मनोरंजनात्मक प्रभाविता	5.07	1.57	0.68
Total		39.93	9.29	1.24

The aggregate of mean scores of teachers of Rajgarh sample in this skill was observed to be 39.93 with SD of 9.29. The four components on which the students are found to be weak include proper gesturisation, modulation of voice, dramatisation, and selection of proper story relevant to the situation. Except these four, the other components have a mean greater than 5.0. The 't Value' for different components indicate the need for training in this skill.

Only two teachers from Bhopal sample could make use of this skill. Therefore data is not presented. As the skill of story telling is crucial at the primary level, the teachers should be made aware of its importance and given training in this skill.

4.5.10 Skill of Recapitulation :

A teacher who can recapitulate the lesson properly makes his students more disciplined, helps them becoming good reflective thinkers and improves their learning habits. In order to be effective in this direction a good teacher is required to possess certain skill. This skill may be defined as a set of those teacher behaviours which a teacher demonstrates while closing his lesson by making a review of what he has taught in the lesson. The skill may be defined in terms of the following components:

- (1) Review based upon the whole lesson;
- (2) Asking Sufficient number of questions;
- (3) Involving all the students;
- (4) Paying attention to individual differences;
- (5) Including diagnostic questions;
- (6) Providing proper guidance to students.

The skill was observed and assessed on the above components and the related data are presented in Table 4.20 and 4.21

Table 4.20 Skill of Recapitulation (Rajgarh Sample)

S. No.	Components	Mean	SD	t'-value for df=3
1.	सम्पूर्ण पाठ विषय पर आधारित पुनरावलोकन	5.47	1.45	0.68 NS
2.	पर्याप्त मात्रा में प्रश्न	5.40	1.62	1.42 NS
3.	सभी छात्रों को ओर ध्यान	5.80	1.38	0.62 NS
4.	व्यक्तिगत भिन्नताओं का ध्यान	4.80	2.36	0.54 NS
5.	निदानात्मक प्रश्नों का समावेश	4.80	1.76	0.92 NS
6.	छात्रों का उचित मार्ग दर्शन	5.20	1.51	0.98 NS
Total		31.47	6.66	0.59 NS

Table 4.21 Skill of Recapitulation (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	सम्पूर्ण पाठ विषय पर आधारित पुनरावलोकन	5.90	0.89	1.29 NS
2.	पर्याप्त मात्रा में प्रश्न	5.25	1.51	1.71 *
3.	सभी छात्रों पर ध्यान	5.85	1.36	1.85 *
4.	व्यक्तिगत भिन्नताओं का ध्यान	5.65	1.56	1.63 *
5.	निदानात्मक प्रश्नों का समावेश	5.05	1.28	1.47 NS
6.	छात्रों का उचित मार्गदर्शन	5.80	1.17	1.44 NS
Total		33.5	7.37	1.821 *

NS=Not significant; significant at-20 level.

From Table 4.20 it is found that the aggregate of mean scores of the Rajgarh Sample is 31.47 with SD of 6.66. The components which have a mean below 5.0 are : (1) keeping note of individual differences; and (2) including diagnostic questions. The teachers need training in these components. It is also found that the effective teachers ask sufficient number of questions than the less effective teachers. All the obtained t-values used to compare the performance of most effective and least effective teachers are insignificant. Training to effective and ineffective teachers in this skill is recommended. The aggregate of mean scores of the Bhopal Sample is 33.5 with SD 7.37. All the components of this skill in the case of Bhopal Sample have mean value greater than 5.0 indicating that the teachers of this sample have got satisfactory training.

4.6. Developmental Skills Cluster

The Developmental skills cluster consists of the following skills :

- (a) Skill of Developing Good Handwriting : This includes skill of developing writing letters of the alphabets;
- (b) Skills of Reading : This includes skill of developing analytical reading; skill of developing reading for comprehension; skill of developing reading for emotional effects

(effective communication) ; and skill of developing general reading habits among the children; and

(c) Skills of Introducing Number Concepts and Number Operations.

All these skills include demonstration by the centre teacher, practice by the children and correction work with remedial measures by the teachers. A teacher who can execute all the related desirable behaviours correctly may be considered as skilled in this area. All these skills were observed according to the procedures described earlier. The results and discussions corresponding to this skill are given in detail below :

4.6.1 Skill of Developing Good Handwriting :

Good Handwriting is essential for written communication. However, this is lacking among many of the children. Unless a teacher makes serious efforts in the beginning stages of learning, good handwriting can not be developed. The skill of developing good handwriting is a set of those teacher behaviours which are associated with the activity of giving guidance during practice sessions in order to develop good handwriting. This skill was defined in terms of the following components :

- (1) Correcting the size of letters;
- (2) Maintenance of proper spacing of letters;
- (3) Ensuring the legibility of handwriting;
- (4) Giving directions to the children; and
- (5) Exercising class control by the teacher.

The skill of hand writing was assessed and observed for the above components and the related data are presented in Tables 4.22 and 4.23

Table 4.22 Skill of Developing Good Handwriting (Raigarh Sample).

S. No.	Components	Mean	SD	't'-Value for $df=3$
1.	अक्षरों के आकार का शुद्धिकरण	4.13	1.63	0.69 NS
2.	शब्दों के मध्य पर्याप्त अंतर का शुद्धिकरण	4.33	1.62	0.65 NS
3.	अक्षर की सुवाच्यता का शुद्धिकरण	4.27	1.65	0.63 NS
4.	कक्षा में बालकों को निर्देश	5.07	1.91	0.85 NS
5.	उचित कक्षा नियंत्रण	5.87	1.91	1.22 NS
Total		23.67	6.40	0.89 NS

Table 4.23 Skill of Developing Good Handwriting (Bhopal Sample)

S. No.	Components	Mean	SD	't' - value for df=5
1.	अक्षरों के आकार का शुद्धिकरण	5.30	0.95	1.65*
2.	शब्दों के मध्य पर्याप्त अन्तर का शुद्धिकरण	5.15	1.01	1.38NS
3.	अक्षर की सुव्यवस्था का शुद्धिकरण	4.65	1.15	1.35NS
4.	कक्षा में बालकों को निर्देश	5.15	1.01	1.62*
5.	उचित कक्षा नियंत्रण	5.36	1.96	1.57*
Total		25.61	4.99	1.85*

* Sig. at .20 level

NS—Non Significant

From Table 4.22 it is observed that the aggregate mean score of the Rajgarh Sample is 23.67 with a SD of 6.40. The teachers tend to ignore this aspect of teaching. They need training in the application of this skill. The three components which have a mean below 5.0 are : correcting the size of letters, correcting the maintenance of proper spacing of letters and correcting the legibility of handwriting. The teachers are weak in these components and as such need training in this skill.

From Table 4.23 it is evident that all the components except one, that is, correcting the legibility of handwriting, have a mean score above 5.0. The aggregate mean score of the Bhopal Sample was found to be 25.61 with SD of 4.99. The results indicate that the performance of the NFE centre teachers of Bhopal Sample is quite satisfactory on this skill. The obtained 't'-value is significant at .20 level indicating that training to ineffective teachers over this skill will make them more effective.

4.6.1 Skill of Developing Writing Letters of the Alphabets :

Learning to write letters of the alphabets is a difficult task for the beginning child. He learns it in an integrated way in the sense that he learns simultaneously to estimate the size and shape of the letters and tries to reproduce it in an identical way. Even learning of the required psychomotor reflexes is a part of the process. Making the child learn these behaviours efficiently is a difficult task that the teacher faces. The skill of developing the writing of

letters of the alphabets may thus be defined as a set of those teacher behaviours which are related to the activities of making his learning easy and interesting. It will thus indicate the necessary demonstrations, as well as practice sessions and feed-back session by the teachers. The teacher may teach the parts of the letter separately and then teach the complete letter. The skill may be defined in terms of the following components :

- (1) Analysing the parts of the letter;
- (2) Practising the parts of the letter;
- (3) Joining the parts and getting the letters;
- (4) Practising the writing of letters; and
- (5) Classroom observation and supervision.

The skill was observed in terms of the above components and the related data are presented in Tables 4.24 and 4.25

Table 4.24 Skill of Developing Writing Letters of the Alphabets (Rajgarh Sample)

S.No.	Components	Mean	SD	't'-value for df=3
1.	अक्षर का विश्लेषण करवाना	4.93	1.48	-0.09
2.	अक्षर के खण्डों का अभ्यास	5.13	2.06	-0.21
3.	खण्ड मिलाकर अक्षर बनवाना	4.33	2.49	-0.12
4.	अक्षर लिखने का अभ्यास	4.80	1.94	-0.06
5.	कक्षा व्यवस्था एवं मार्गदर्शन	6.40	1.14	-0.24
Total		25.59	8.34	-0.16

Table 4.25, Skill of Developing Writing Letters of the Alphabets (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	अक्षर का विश्लेषण करवाना	5.70	1.05	1.05 NS
2.	अक्षर के खण्डों का अभ्यास	5.50	1.07	1.73 *
3.	खण्ड मिलाकर अक्षर बनवाना	5.25	1.26	1.40 *
4.	अक्षर लिखने का अभ्यास	5.15	1.19	1.63 *
5.	कक्षा व्यवस्था एवं मार्गदर्शन	5.80	1.36	1.80 *
Total		27.40	5.52	1.75 *

NS : Non significant

* Sig. at .20 level

The aggregate mean score of the teachers of Rajgarh Sample was observed to be 25.59 with SD of 8.34 over this skill. The components whose mean rating were below 5.0 were : analysing parts of alphabet letters; joining these parts and forming the letters; and practising the writing of alphabet letters. All the t-values, computed for comparing the performance of most effective and least effective teachers were found to be negative and thus it may be said that the NFE centre teachers need training in this skill.

From Table 4.25 the aggregate of mean scores of components of this skill was found to be 27.40 with SD of 5.52. All the components have a mean greater than 5.0. The obtained t-value is significant at .20 level indicating least effective teachers need training in this skill.

4.6.2 Skills of Reading

To develop the reading ability of the beginning children, the teacher has to demonstrate the model reading. The purpose of reading may be for comprehension or for giving emotional experience which is called "affective communication" (Perrot 1982). During developing reading, teachers should demonstrate to the children effective ways to read systematically. Reading can be loud or silent. Many important questions related to these teaching acts and the corresponding teacher behaviours are related to these teaching acts and the corresponding teacher behaviours. Are our teachers performing all these acts as required in the situation?

With what levels of skills are they doing so? Do they need any training in this direction? This study made some explorations in this direction. For this purpose the following skill have been defined;

- (1) Skill of developing reading;
- (2) Skill of developing analytical reading;
- (3) Skill of reading for emotional effects;
- (4) Skill of reading for comprehension; and
- (5) Skill of developing elementary reading.

4.6.2.1 Skill of Developing Reading :

The skill of developing reading is a cluster of those desirable teacher behaviours which occur when the teacher demonstrates and supervises reading practice sessions by the students. It is considered to be an integration of the reading skills mentioned earlier. The skill of developing reading is achieved by emphasising the following components :

- (1) Correction of wrong pronunciation;
- (2) Correction of wrong stress on words;
- (3) Correction of reading posture;
- (4) Correction of speed of reading;
- (5) Correction of rhythm in reading; and
- (6) Control over students;

The findings related to the above components are given in Tables 4.26 and 4.27. The aggregate of mean ratings over this skill was found to be 30.92 with SD of 4.78 as given in Table 4.26. The components for which the mean value is less than 5.0 are identified to be namely, correcting the posture of students; and correcting the speed and rhythm while reading.

Table 4.26 Skill of Developing Reading (Rajgarh Sample)

S.No.	Components	Mean	SD	't'-value for df=5
1	गलत उच्चारणों का शुद्धिकरण	5.93	1.18	0.33
2.	शब्दों पर अनुचित बल का शुद्धिकरण	5.53	0.96	0.45
3.	आसन ठीक करना	4.20	1.33	0.60
4.	गति का शुद्धिकरण	4.53	1.45	0.27
5.	लय का शुद्धिकरण	4.33	1.14	0.73
6.	अन्य छात्रों पर नियंत्रण	6.40	1.02	0.08
Total		30.92	4.78	0.35

Table 4.27 Skill of Developing Reading. (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	गलत उच्चारणों का शुद्धिकरण	5.80	0.81	2.89***
2.	शब्दों पर अनुचित बल का शुद्धिकरण	5.65	1.06	2.88***
3.	आसन ठीक करना	5.30	1.10	2.88***
4.	गति का शुद्धिकरण	5.15	1.15	2.88***
5.	लय का शुद्धिकरण	5.00	1.18	1.88*
6.	अन्य छात्रों पर नियन्त्रण	5.50	1.07	1.16*
Total		32.40	6.04	2.67***

From Table 4.27 it is evident that all the components have a mean greater than 5.0. The aggregate of mean scores of the Bhopal Sample over this skill was observed to be 32.40 with SD of 6.04 thus indicating that the teachers are quite good in this skill.

4.6.2.2 Skill of Developing Analytical Reading :

The skill of developing analytical reading is the cluster of those teacher and pupil behaviour which is related to properly reading a passage so that both the reader and the listener are able to comprehend the content covered in a given passage. It is defined in terms of the following components :

- (1) Analysis of proper pronunciations by the teacher;
- (2) Analysis of proper stress on words by the teacher;
- (3) Proper practice by the students;
- (4) Correction of student reading by the teachers; and
- (5) Proper attention to all the students by the teacher.

It is a desirable practice to develop the habit of analysing before one reads something. It is an integral part of developing correct reading. It is desirable in the sense that the teacher demonstrates how to analyse before one reads. The skill was observed on its components and the findings are presented in Tables 4.28 and 4.29

Table 4.28. Skill of Developing Analytical Reading (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	सही उच्चारण का विश्लेषण	4.27	1.65	0.94
2.	शब्दों पर उचित बल का विश्लेषण	4.33	1.49	1.64*
3.	छात्रों द्वारा उचित अभ्यास	5.20	1.40	1.48
4.	शिक्षक द्वारा छात्रों के वाचन का शुद्धिकरण	5.33	1.19	0.26
5.	समस्त छात्रों पर शिक्षक का ध्यान	6.07	1.06	0.38
Total		25.20	4.64	1.81*

Table 4.29 Skill of Developing Analytical Reading (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	सही उच्चारण का विश्लेषण	5.80	0.87	2.48**
2.	शब्दों पर उचित बल का विश्लेषण	5.50	1.07	1.853*
3.	छात्रों द्वारा उचित अभ्यास	5.30	1.18	1.826*
4.	शिक्षक द्वारा छात्रों के वाचन का शुद्धिकरण	5.65	1.11	1.733*
5.	समस्त छात्रों पर शिक्षक का ध्यान	5.80	1.03	1.65*
Total		28.05	4.76	2.27**

* Sig at .05 Level

** Sig at .01 Level

From Table 4.28 it is evident that the aggregate of scores of the teachers of Rajgarh Sample was found to be 25.20 with SD of 4.64. The components with mean below 5.0 were

found to be : (i) analysis of proper pronounciations by the teacher; and (ii) analysis of proper stress on words by the teacher. On the basis of the findings it can be said that the teachers need training and practice in this skill.

From Table 4.29 it is clear that the all the components have a mean value greater than 5.0 indicating that the teachers are quite good in the use of this skill. The aggregate of mean scores of the Bhopal Sample on this skill was estimated to be 28.05 with a SD of 4.76. The obtained 't'-value is significant at .05 level indicating that the least effective teachers need training in this skill in order to become more effective.

4.6.2.3 Skill of Reading for comprehension :

The skill of reading for comprehension is the cluster of those behaviours of the teacher which he exhibits while reading a passage for producing effective comprehension effects. It is demonstration by the teacher and is defined in terms of the following components :

- (1) Proper pausing while reading;
- (2) Correct pronounciation;
- (3) Fluency in reading;
- (4) Effective reading of words;
- (5) Comprehension effectiveness on the whole; and
- (6) Control over the students;

To read with comprehension is the area in which our students are weak. The teachers need practice to demonstrate this skill in their day to day teaching. This skill was observed for the above components and the related data are presented in Tables 4.30 and 4.31.

Table 4.30 Skill of Reading for Comprehension (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	उचित विराम	4.60	2.20	0.00
2.	सही उच्चारण	5.07	1.06	0.41
3.	प्रवाही वाचन	5.00	1.07	0.50
4.	शब्दों की प्रभाविता	4.60	1.31	0.20
5.	अवबोकात्मक प्रभाविता	4.93	1.65	0.33
6.	छात्रों पर नियंत्रण	6.67	0.60	0.86
Total		30.87	5.45	0.42

The aggregate mean of the teachers of Rajgarh Sample was found to be 30.87 with SD of 5.45. The components with means below 5.0 were found to be (i) proper pausing while reading; (ii) effective reading of words; and (iii) general comprehensive effectiveness. The teachers need special training in these components.

Table 4.31 Skill of Reading for Comprehension (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	उचित विराम	5.70	1.14	2.07 **
2.	सही उच्चारण	5.65	1.28	2.07 **
3.	प्रवाही वाचन	5.35	1.35	2.42 **
4.	शब्दों की प्रभाविता	5.05	1.20	1.93 *
5.	अवबोधार्थक प्रभाविता	5.05	1.20	1.93 *
6.	छात्रों पर नियंत्रण	5.85	1.24	2.04 **
Total		32.65	7.07	2.24 **

From Table 4.30 it is observed that the aggregate of mean scores of the Bhopal Sample on this skill is 32.65 with SD of 7.07. All the components have a mean value greater than 5.0 thus indicating that the teachers are good in using this skill as compared to the Rajgarh Sample.

4.6.2.4 Skill of Developing Reading for Emotional Effects :

The skill of developing reading for emotional effects has also been called as "affective communication" by perrott (1982). It has also been defined as the cluster of those teacher and student behaviours which help the students attain the ability to read for proper emotional effects. Due to its specific purpose, the skill obviously becomes different from other reading skills defined earlier. The skill is defined in terms of the following components :

- (1) Proper stress variations on word pronunciation;
- (2) Proper stress variations on sentence reading or reciting;
- (3) Proper tone variations;
- (4) Proper maintenance of rhythm; and
- (5) Proper emotional effectiveness.

A loud reading by the children which is effective from comprehension point of view is not necessarily effective from emotional point of views. Reading for emotional effects means reading which arouses emotions and this can be achieved with the proper use of the above components. The data pertaining to the above components of the skill is presented in Tables 4.32 and 4.33:

Table 4.32 Skill of Developing Reading for Emotional Effects (Rajgarh Sample)

S. No.	Components	Mean	SD	't' - value for df=3
1.	शब्दों पर उचित बल परिवर्तन	5.27	1.21	0.22
2	वाक्यों पर उचित बल परिवर्तन	5.07	1.39	0.68
3.	स्वरों में उचित परिवर्तन	5.07	1.51	0.40
4.	लय बनाये रखना	5.07	2.28	0.4
5.	भावात्मक प्रवाहिता	5.07	2.13	0.61
Total		25.55	7.50	0.54

Table 4.33 Skill of Developing Reading for Emotional Effects (Bhopal Sample)

S. No.	Components	Mean	SD	't'-Value for df=3
1.	शब्दों पर उचित बल परिवर्तन	5.80	1.08	2.51 **
2.	वाक्यों पर उचित बल परिवर्तन	5.50	1.36	2.13 **
3.	स्वरों में उचित परिवर्तन	5.50	0.89	2.22 **
4.	लय बनाये रखना	5.45	1.40	2.04 **
5	भावात्मक प्रवाहिता	5.60	1.36	1.91 *
Total		27.85	6.48	2.23 **

From the above tables it is clear that all the components have a mean value greater than 5.0 thus indicating that the performance of the teachers from both the samples in this skill is quite satisfactory.

4.6.2.5 Skill of Developing Elementary Reading :

The skill of developing elementary reading is defined in terms of the following components :

- (1) Clear pronunciation;
- (2) Proper pausing;
- (3) Proper rhythm;
- (4) Proper change of tone;
- (5) Proper standing posture by the teacher;
- (6) Change in facial expressions; and
- (7) Other gestures by the teacher.

If a student is to develop proper reading, it is necessary that the teacher frequently demonstrates how to read properly and how to apply the above components in a natural way so that desirable comprehension effects of reading are achieved. The skill was observed on the above components and the related data are presented in the Tables 4.34 and 4.35. From table 4.34 it is observed that the aggregate mean scores of teachers of Rajgarh sample over this skill was 37.67 and SD of 5.81. The components having mean value below 5.0 are the gestural components. It is apparent that the teachers need guidance and training in these components. On the basis of 't'-values, it is observed that clear pronunciation and voice changes are also the areas where teachers need training.

Table 4.34 Skill of Developing Elementary Reading (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	स्पष्ट उच्चारण	6.00	1.10	-0.26
2.	उचित विराम	6.13	1.41	0.85
3.	उचित लय	5.07	0.96	0.11
4.	स्वर परिवर्तन	5.00	1.48	-0.10
5.	शिक्षक के खड़े होने की स्थिति	6.20	1.11	0.44
6.	चेहरे पर हावभाव प्रदर्शन में परिवर्तन	4.80	1.22	0.16
7.	अन्य हावभाव में परिवर्तन	4.47	1.50	0.97
Total		37.67	5.81	2.01

Table 4.35 Skill of Developing Elementary Reading (Bhopal Sample)

S.No.	Components	Mean	SD	't'—value for df=3
1.	स्पष्ट उच्चारण	6.15	0.96	2.44**
2.	उचित बिराम	5.80	1.03	1.86*
3.	उचित लय	5.60	1.07	2.07**
4.	स्वर परिवर्तन	5.45	1.16	2.20*
5.	शिक्षक के खड़े होने की स्थिति	5.55	1.65	1.55**
6.	बेहरे पर हावभाव प्रदर्शन में परिवर्तन	4.75	1.46	2.13**
7.	अन्य हावभाव में परिवर्तन	4.40	1.39	2.88**
Total		37.70	8.11	2.20**

From Table 4.34 it is observed that the aggregate of mean scores of Bhopal sample is 37.67 with SD of 5.81. In this sample too, the gestural components have a mean value below 5.0 thus indicating that the teachers need training in these components.

4.6.3 Skill of Developing Number Concepts and number Operations :

Skill of developing number concepts is a set of those desirable teacher behaviours which occur when a teacher deals with the natural numbers (0 to 10) to the beginners. The skill is defined in terms of the following components :

- (1) Clarity about the concept of numbers;
- (2) Comparison of numbers;
- (3) Practice of reading numbers;
- (4) Practice of writing numbers; and
- (5) General class control.

4.6.3.1 Skill of Developing Number Concepts :

Developing number concepts at an early stage of the beginners is a difficult task for the elementary teachers. They require special skills in this area. The concept of developing number concepts does not occur through mere explaining or by giving abstract definitions of terms or by simple counting by the teacher.

Practical illustrations and demonstrations given by a teacher can be effective in deve-

loping this skill. In the present study, an attempt was made to observe and assess the extent to which these experiences are provided by the NFE centre teachers. The level at which the teachers are performing over these behaviours is presented in Tables 4.36 and 4.37

Table 4.36 Skill of Developing Number Concepts (Rajgarh Sample)

S.No.	Components	Mean	SD	't'-value for df=3
1.	संख्या का अवबोधन करवाना	5.47	1.41	-0.11
2.	संख्या की तुलना करवाना	4.60	1.93	+0.08
3.	संख्याओं को पढ़वाना	5.40	1.36	-0.24
4.	अंक लिखने का अभ्यास करवाना	5.50	1.40	0.71
5.	सामान्य कक्षा नियंत्रण	6.40	1.31	0.19
Total		27.37	6.25	0.12

It appears from table 4.36 that the performance of teachers over this skill is average and they need training over these important behaviours. The aggregate of mean scores on the components of the sample is 27.37 with SD 6.25. Comparing numbers is one component which has a mean of 4.60. It indicates that the teachers need training in this skill.

Table 4.37 Skill of Developing Number Concepts (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	संख्या का अवबोधन करवाना	5.05	1.02	1.86
2.	संख्या की तुलना करवाना	5.85	1.11	1.25
3.	संख्याओं को पढ़वाना	6.05	1.12	1.61
4.	अंक लिखने का अभ्यास करवाना	5.80	0.88	1.55
5.	सामान्य कक्षा नियंत्रण	5.95	1.07	2.44
Total		28.70	4.81	2.11

From Table 4.37 we find that the aggregate mean scores of Bhopal sample over this skill is 28.70 with SD of 4.81. All the components have a mean value above 5.0, indicating that teachers performance over this skill is satisfactory.

4.6.3.2 Skill of Introducing Number Operations :

The skill of developing number operations is as important and difficult skill as that of introducing number concepts. The concept of addition, multiplication, subtraction and division are slightly difficult to grasp for the beginning children. However, the task of the teacher becomes easy if these concepts are introduced through a variety of practical and applied examples drawn from child's environment. The skill may be defined in terms of the following components :

- (1) To introduce the concept of fundamental operations-addition, subtraction, division and multiplication.
- (2) Use of simple examples;
- (3) Use of interesting examples;
- (4) Use of relevant examples; and
- (5) Use of examples based upon day to day experiences.

This skill was observed on the basis of the above components and the related data are presented in Tables 4.38 and 4.39

Table 4.38 Skill of Introducing Number Operations (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	उदाहरण देकर 't' का अवबोधन करवाना	5.07	1.53	0.46
2.	सरल उदाहरण का प्रयोग	4.80	1.72	0.46
3.	रुचिकर उदाहरणों का प्रयोग	4.80	2.07	1.22
4.	सुसम्बन्ध उदाहरणों का प्रयोग	5.07	1.47	1.37
5.	परिवेश के उदाहरणों का प्रयोग	4.73	2.11	0.58
Total		24.47	8.59	0.80

Table 4.39 Skill of Introducing Number Operations (Bhopal Sample)

S. No.	Components	Mean	SD	't'-Value for df=5
1.	उदाहरण देकर 't' का अवबोधन करवाना	6.45	1.12	2.07 **
2.	सरल उदाहरणों का वर्णन	5.80	1.29	1.49 *
3.	रुचिकर उदाहरणों का प्रयोग	5.75	1.44	1.62 *
4.	सुसम्बन्ध उदाहरणों का प्रयोग	5.45	1.47	1.86 *
5.	परिवेश के उदाहरणों का प्रयोग	5.50	1.69	1.75 *
Total		28.95	6.83	1.82

From Table 4.38 it was observed that the aggregate of mean scores of Rajgarh sample over this skill was 24.47 with SD of 8.59. The components which have a mean below 5.0 were use of simple examples and interesting examples. All the 't'-values for comparing the performance of most effective and least effective teachers are insignificant thus indicating that the teachers of both extremes are equally poor in their performance. Therefore, there is scope for improvement.

From Table 4.39 it was observed that all the components have a mean value above 5.0. The aggregate mean score of the Bhopal Sample is 28.95 with SD of 6.83. The obtained 't' value indicates that the effective teachers are quite good in using this skill but other teachers need training in this skills,

4.7 Giving Assignment and Supervisory Skills Cluster

This cluster of skills has been studied in depth in the research study. Teachers have to give and check assignments regularly. They are also required to supervise the class work of the pupils effectively. The cluster of giving assignments and supervisory skills consists of the following skills :

- (1) Skill of giving classwork;
- (2) Skill of effective class supervision;
- (3) Skill of Individual students supervision; and
- (4) Skill of giving homework.

The skill of supervising class work has been assessed by keeping the teacher in the focus of observation and the skill of effective class supervision has been assessed by keeping

the students in the focus of observation. Hence the two skills are being differentiated in this study. Findings related to these skills are presented below.

4.7.1 Skill of Giving Class Work :

Giving good class work, supervising it properly and checking it regularly constitutes another important area which contributes to effective teaching. A good teacher must have certain qualities to be sufficiently skilled in this area. The skill of giving class work may be defined as a set of those teacher behaviours which are associated with deciding about time and the scope of classwork, instructing and motivating the students to complete class work. It was visualized as consisting of the following components :

- (1) Selection of proper work;
- (2) Explaining the work to be done by the children and preparing them for instruction;
- (3) Sufficiency of work;
- (4) Giving simple to complex assignments; and
- (5) Testing childrens' understanding.

The skill was observed for the above components and the related data are presented in Tables 4.40 and 4.41.

Table 4.40 Skill of Giving Class Work (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	उचित कार्य का चयन	4.93	1.29	0.47
2.	कार्य को समझने तथा निर्देशों को ग्रहण करने के लिये तैयार करना	4.73	1.91	1.38
3.	कार्य की पर्याप्त मात्रा	4.80	1.51	0.62
4.	सरल से जटिल सामग्री का प्रयोग	4.20	1.62	0.60
5.	छात्र समझ की जांच करना	4.73	1.34	1.02
Total		23.39	4.13	1.30

Table 4.41 Skill of Giving Class Work (Bhopal Sample)

S. No.	Components	Mean	SD	t'-value for df=5
1.	उचित कार्य का चयन	6.10	1.09	1.87*
2.	कार्य को समझने तथा निर्देशों को ग्रहण करने के लिये तैयार करना	5.90	1.09	2.04**
3.	कार्य की पर्याप्त मात्रा	5.90	1.22	2.07**
4.	सरल से जटिल सामग्री का प्रयोग	5.60	1.11	1.65*
5.	छात्र समझ की जांच करना	5.50	1.22	1.53*
Total		29.00	5.77	2.51**

The aggregate of mean ratings of the teachers was found to be 23.39 with SD of 4.13. It is less than 5.0 in all the components which indicates that the NFE centre teachers are quite deficient in using this skill and it is desirable to give them special training in this skill.

The aggregate of mean ratings of the teachers of Bhopal sample was found to be 29.0 with SD 5.77. All the components have a mean value above 5.0 thus indicating that the teachers of Bhopal sample are proficient in using this skill as compared to the teachers of Rajgarh Sample and do not need any training.

4.7.2 Skill of Effectives Class Supervision :

Assigning and supervising classwork effectively, giving right type of work both in quantity and at the appropriate time and supported by proper feedback and instructions to the children enabling the teacher to succeed in his teaching are some of the objectives of this skill. The skill of effective class supervision is defined as a set of those teacher behaviours which are relevant to the above goals and activities. It is defined in terms of the following components :

- (1) Selecting proper activities;
- (2) Going round in the classroom;
- (3) Paying attention to the whole of class;
- (4) Appreciating good work; and
- (5) Evaluating the class work comprehensively.

The skill was observed for the above components and the related data are presented in Tables 4.42 and 4.43. From Table 4.42 the aggregate of the mean ratings of the NFE teachers was found to be 28.0 with SD 6.98. All the components have mean above 5.0 thus indicating that the teachers of Rajgarh sample are quite good in this skill.

Table 4.42 Skill of effective Class Supervision (Rajgarh Sample)

S.No.	Components	Mean	SD	't'-value for df=3
1.	कार्य का सही चुनाव	5.47	1.67	0.14
2.	कक्षा में घूमते रहना	5.27	1.81	0.18
3.	सारी कक्षा की ओर ध्यान रखना	6.40	1.93	0.54
4.	अच्छे कार्य की प्रशंसा करना	5.53	1.36	- 0.36
5.	कार्य का सही मूल्यांकन करना	5.33	2.20	-0.10
Total		28.00	6.98	-0.05

Table 4.43 Skill of effective Class Supervision (Bhopal Sample)

S.No.	Components	Mean	SD	't'-value for df=5
1.	कार्य का सही चुनाव	6.15	1.52	2.88***
2.	कक्षा में घूमते रहना	5.75	1.64	2.22**
3.	सारी कक्षा की ओर ध्यान रखना	6.10	1.45	2.31**
4.	अच्छे कार्य की प्रशंसा करना	6.00	1.61	2.22
5.	कार्य का सही मूल्यांकन	6.05	1.56	2.05
Total		30.05	7.13	2.63***

From Table 4.43 the aggregate of mean scores of the Bhopal sample was observed to be 30.05 with SD of 7.13. All the components have mean value above 5.0, thus indicating that the teachers of Bhopal sample are good in this skill.

4.7.3 Skill of Individual Student Supervision :

The skill of student supervision is the set of those teachers behaviours which are prominent when a teacher gets some written work done in the class and pays special attention to an individual student. Individual attention may be necessary after every lesson. Individual attention may follow a teaching session of 15 to 20 minutes and the classwork should cover an individual student's difficulty. The skill of individual supervision may consist of the following components :

- (1) Proper designing of individual assignments;
- (2) Proper teacher movements;
- (3) Paying attention to a student;
- (4) Appreciating good work done by the student; and
- (5) Evaluating students' work.

Teachers' performance over this skill was observed on the basis of the above components and related data are given Tables 4.44 and 4.45.

Table 4.44 Skill of Individual Student Supervision (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	कार्य का सही चुनाव	5.47	1.67	0.14
2.	कक्षा में घूमते रहना	5.27	1.81	0.18
3.	प्रत्येक बालक की ओर ध्यान देना	6.40	1.93	0.54
4.	विद्यार्थी द्वारा किये गये अच्छे कार्य की प्रशंसा करना	5.53	1.36	-0.36
5.	कार्य का सही मूल्यांकन करना	5.33	2.20	-0.10
Total		28.00	6.98	0.05

Table 4.45 Skill of Individual Student Supervision (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	कार्य का सही चुनाव	6.15	1.15	2.88***
2.	कक्षा में घूमते रहना	5.75	1.64	2.22***
3.	प्रत्येक बालक की ओर ध्यान देना	6.10	1.44	2.31**
4.	विद्यार्थी द्वारा किये गये अच्छे कार्य की प्रशंसा करना	6.00	1.61	2.22***
5.	कार्य का सही मूल्यांकन करना	6.05	1.56	2.05**
Total		30.05	7.13	2.63

From Table 4.44 it is observed that the performance of NFE centre teachers on this skill was adequate. The aggregate of mean scores of the sample was found to be 28.0 and SD of 6.98. The performance of the least effective and most effective teachers over the last two components is, however, poor as indicated by t-value. They neither appreciate the good work of the students nor do they properly discourage negligence or poor work on the part of a student. The teachers need practice and special training in the skill. The aggregate mean scores of the Bhopal sample over this skill was observed to be 30.05 with SD 7.13 as is clear from Table 4.45 (b). All the components have a mean value above 5.0, thus indicating that the performance of Bhopal sample is satisfactory on this skill.

4.1.4 Skill of Giving Dictation

Giving dictation to students is an important skill in an elementary school classroom and in particular at the NFE centres. The teacher who gives dictation of a passage, at the NFE centre makes his students to write something and thus makes them aware of their achievements. In order to give dictation effectively, a teacher must acquire necessary skills. The skill of giving dictation may be defined as those teacher behaviours which are exhibited by a teacher while asking his students to write a passage dictated by him. The skill may be defined in terms of the following components:

- (1) Standing at a proper place;
- (2) Stressing proper pronounciations;
- (3) Dictating with proper speed;

- (4) Giving proper pauses while dictating;
- (5) Maintaining proper attention of students in the class; and
- (6) Paying attention to individual difficulties.

The skill was observed for the above components and the related data are presented in Table 4.46.

Table 4.46 Skill of Giving Dictation (Rajgarh Sample)

S. No.	Components	Mean	SD	't'-value for df=3
1.	सही स्थान पर खड़ा होना	6.87	0.62	0.00
2.	सही उच्चारण पर बल देना	6.27	0.77	2.27
3.	सही गति से लिखवाना	6.27	1.12	0.47
4.	उचित विराम देना	5.80	1.80	0.93
5.	कक्षा में उचित ध्यान रखना	6.47	0.62	0.09
6.	व्यक्तिगत कठिनाईयों को ध्यान में रखना	4.87	1.63	0.46
Total		36.55	5.61	0.79

All the components have a mean value greater than 5.0 except the one namely, to paying attention to individual difficulties while giving dictation. The teachers may, therefore, be made aware of the importance of this component. The teachers of the NFE centres and formal schools of Bhopal were not found using this skill. The teachers need training in this skill.

4.7.5 Skill of Giving Home Work :

This skill of giving homework is a set of those teacher activities and related behaviours which are associated with making decisions about assigning the home work and implementing them. Accordingly, the skill is defined in terms of the following components ;

- (1) Selection of proper content;
- (2) Selection of content according to the level of students;
- (3) Selection of content according to the interest of students;
- (4) Sufficiency of the content;
- (5) Giving directions to the student fore doing home work; and
- (6) Checking the home assignments regularly.

The skill has both its importance and limitations in the context of NFE. The children studying at NFE centres hardly find any time to study at home. Even if they find some spare time, they will study only if they are interested in doing so. The NFE centre teachers, therefore, should give less work and motivate the students sufficiently for doing that work. The related teacher behaviours were observed and assessed for the above components and the related data are given in Table 4.47.

Table 4.47 Skill of Giving Home Work (Bhopal Sample)

S. No.	Components	Mean	SD	't'-value for df=5
1.	उचित विषय का चुनाव	5.40	1.45	1.45 **
2.	छात्र वर्ग के अनुरूप	4.93	1.39	0.53 **
3.	छात्र रुचि के अनुरूप	4.67	1.58	0.88 **
4.	पर्याप्तता	5.00	1.53	0.39 *
5.	उचित मार्गदर्शन	4.60	1.78	0.77 *
6.	कार्य का पुनर्मूल्यांकन	4.93	2.21	0.44 **
Total		29.53	8.32	1.00 **

The aggregate of mean scores of the teachers over this skill was found to be 29.53 with SD of 8.32. The components whose means are below 5.0 are : selection of content according to the level of students, giving direction to students for home work and checking the home assignments regularly. The obtained 't'-values for the most and least effective teachers corresponding to all the components are all insignificant and both effective and ineffective teachers need training in this skill.

In the case of Bhopal sample only 50 percent of the teachers were in the habit of giving homework. Out of 9 teachers from the NFE centres, only two teachers gave home work to children. The teachers told that they did not give homework to the children regularly as they did not have time to study at home. All the children of NFE Centres were engaged in some other work or occupation which kept them busy after the regular school hours. Some of these children had to help their parents in their work. The teachers of the formal schools were not regular in giving home work. They should be trained in this skill so that they start giving home work to children which will enable them to devote some time for their studies at home.

4.8. Findings Related to the Non-Verbal Behaviour of Teachers :

The non-verbal behaviour on 18 categories (11 encouraging and 7 restricting dimensions) based on Galloway system was observed for an average duration of five minutes for every teacher. The frequency of occurrence of that category was taken as the score for that behaviour. The observations of 15 teachers of the Rajgarh sample and 20 teachers of the Bhopal sample are given in Tables 4.48 and 4.49.

Table 4.48 Occurrence of Teachers' Non-verbal Behaviours (Rajgarh Sample)

S. No.	Non-verbal Behaviours	Teachers (N=15)	Total Occurrence	Percentage
(a) Encouraging :				
1.	Facial enjoyment	0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 3, 0, 1	6	2
2.	Facial understanding	1, 3, 0, 4, 3, 1, 3, 8, 0, 3, 4, 5, 0, 3, 3	41	15
3.	Eye contact to listen	1, 6, 9, 6, 7, 4, 7, 2, 7, 2, 1, 2, 0, 7, 5	66	23
4.	Movements	4, 1, 0, 1, 0, 0, 0, 5, 2, 0, 0, 0, 0, 0, 1	14	5
5.	Patting backs of students	2, 0, 0, 0, 0, 4, 0, 0, 0, 0, 2, 0, 0, 0, 0	8	3
6.	Gestures to encourage	8, 0, 0, 3, 2, 0, 0, 2, 3, 4, 1, 3, 3, 1, 2	32	10
7.	Readiness to respond	0, 1, 2, 0, 0, 2, 2, 0, 0, 1, 4, 0, 4, 0, 1	17	6
8.	Supportive modulation in voice	1, 1, 5, 1, 0, 0, 0, 0, 1, 1, 0, 0, 1, 0, 1	12	4
9.	Extra verbal cues	2, 3, 3, 0, 2, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	10	3.5
10.	Smiling	0, 3, 3, 0, 0, 2, 0, 0, 0, 0, 2, 0, 0, 0, 1	11	4
11.	Use of teaching aids	0, 0, 0, 3, 3, 0, 4, 2, 2, 2, 0, 3, 1, 2, 2	24	8
(b) Restricting :				
1.	Eye contact indicating inattention	3, 2, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1	8	3
2.	Facial unenthusiasm	1, 0, 0, 2, 1, 0, 0, 1, 1, 2, 0, 2, 1, 1, 1	13	4.5
3.	Scowling/Frowning	1, 0, 0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0	5	1.5
4.	Standing engrossed in own work	0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 2, 1	5	2
5.	Gestures to stop learning	2, 1, 0, 1, 3, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0	10	3.5

S. No.	Non-verbal Behaviours	Teachers (N=15)	Total Occurrence	Percentage
6.	Indication to stop talking	0, 1, 0, 0, 1, 0, 1, 0, 1, 0, 0, 0, 2, 1, 0	7	2.5
7.	Sarcastic imitation to discourage learning	0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	1	0.5
Total Occurrences : 289				

4.49. Occurrence of Teachers' Non-verbal Behaviours (Bhopal Sample)

S. No.	Non-verbal Behaviours	Teachers (N=20)	Total Occurrence	Percentage
(a) Encouraging :				
1.	Facial enjoyment	5, 4, 4, 3, 5, 2, 6, 4, 5, 5, 4, 4, 3, 1, 4, 4, 2, 2, 2, 4	73	12.0
2.	Facial understanding	5, 3, 3, 2, 5, 2, 5, 4, 4, 4, 4, 4, 3, 1, 3, 4, 3, 3, 2, 4	68	11.0
3.	Eye contact to listen	4, 4, 3, 2, 4, 2, 4, 4, 5, 5, 3, 3, 3, 0, 3, 4, 3, 3, 3, 3	65	10.5
4.	Movement	5, 2, 0, 1, 4, 0, 4, 2, 3, 4, 3, 3, 3, 0, 3, 3, 2, 2, 3, 3	50	8.0
5.	Patting backs of students	4, 3, 2, 0, 5, 2, 4, 3, 4, 4, 3, 3, 2, 0, 2, 3, 2, 2, 4, 3	55	9.0
6.	Gestures to encourage responding students	3, 3, 0, 1, 4, 2, 5, 3, 4, 4, 3, 3, 3, 1, 3, 3, 2, 1, 2, 2	52	8.3
7.	Readiness to respond	3, 4, 1, 1, 4, 1, 5, 4, 4, 4, 3, 4, 3, 0, 3, 3, 1, 2, 2, 2	54	8.6
8.	Supportive modulation in voice	3, 3, 1, 0, 3, 1, 4, 3, 3, 4, 3, 4, 3, 0, 3, 2, 1, 1, 2, 3	47	7.5
9.	Extra verbal cues	3, 3, 1, 1, 3, 2, 5, 3, 3, 3, 3, 3, 3, 0, 3, 2, 1, 1, 3, 3	49	8.6
10.	Smiling	5, 4, 1, 0, 3, 1, 3, 4, 2, 4, 2, 3, 2, 0, 2, 2, 2, 2, 2, 2	46	7.3

S. No.	Non-verbal Behaviours	Teachers (N=20)	Total Occurrence	Percentage
11.	Use of teaching aids	0, 2, 0, 0, 2, 0, 3, 3, 3, 3, 3, 3, 0, 0, 0, 1, 1, 1, 1, 2	28	4.5
(b) Restricting :				
1.	Eye contact indicating inattention	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 0	02	0.3
2.	Facial unenthusiasm	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 0	02	0.3
3.	Scowling/Frowning	2, 2, 1, 2, 2, 1, 0, 0, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 0	12	2.0
4.	Standing engrossed in own work	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 0	02	0.3
5.	Gestures to stop learning	1, 1, 1, 2, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	06	1.0
6.	Indication to stop talking	2, 2, 1, 2, 2, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0	11	1.7
7.	Sarcastic imitation to discourage learning	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	0	0.0
Total Occurrences : 622				

The NFE teachers were exposed to the concepts of verbal and non-verbal components in teaching. On the other hand the formal school teachers of Bhopal sample, who were also looking after the NFE centres, had undergone regular teacher training. It was our hypothesis that they would display more of 'encouraging' and less of 'restricting' behaviours as compared to the NFE centre teachers of Rajgarh centres who had only limited exposure to the techniques of teaching. These two types of responses were observed on both the sub-samples and the data (Table 4.50) is analyzed for testing the significance of differences.

Table 4.50 Encouraging and Restricting Behaviours of the two sub-samples.

Dimension/ Sub-sample	Number of Responses :	
	Rajgarh (N=15)	Bhopal (N=20)
Encouraging Behaviours	241 (83.4%)	587 (94.4%)
Restricting Behaviours	48 (16.6%)	35 (5.6%)
Total	289 (100%)	622 (100%)

The percentage of encouraging behaviours among the Rajgarh sample and the Bhopal sample were found to be 83.4 and 94.4% respectively. The difference in term of CR (Garret, 1958, p. 235) was found to be 5.35, which is significant at 0.1 level, assuming the condition of normal distribution. It may be inferred that the Bhopal sample had the advantage of initial teacher training as compared to the Rajgarh sample which had only limited exposure to the non-verbal components of teaching. But the latter sample was also benefitted by the limited training provided to it in non-verbal instructional skills. The Bhopal sample displayed larger number of encouraging behaviours during their teaching as compared to the Rajgarh sample. They also gave indication of facial enjoyment and also patted the back of children more in comparison to the less trained group (Rajgarh Sample). It was also observed that the proportion of 'eye contact' was reduced in their case from 23.0 to 10.5 percent. In the Bhopal sample, the behaviours which should show increase over the Rajgarh sample, were facial enjoyment (6 to 12 percent) and patting the backs, of students (2 to 9 percent). However, the Rajgarh sample was found to be better in 'eye contact' (23.0 percent) as compared to the Bhopal sample (10.5 percent).

Some of the main encouraging and restricting non-verbal behaviours identified through this study are outlined below :

Encouraging Behaviours :

- 1) Facial expression connoting enjoyment by the teacher;
- 2) Teacher moves in the class to encourage children;
- 3) Teacher pats backs of the children; and
- 4) Teacher shows readiness to respond.

Restricting Behaviours :

- 1) Teachers stands engrossed in his own work;
- 2) Teacher scowls and frowns upon the children; and
- 3) Teacher discourages the children to respond.

4.9 Findings Related to the Organisational Skill :

An organisational skill may be defined as the ability to plan and work systematically, to get co-operation from others and to keep them motivated for the completion of a given project. The skill is defined in terms of the following ten components :

- | | |
|--------------------------------------|--|
| (1) सम्बन्धित जानकारी प्राप्त करना ; | (2) लोगों से सम्पर्क स्थापित करना ; |
| (3) स्थान एवं समय निर्धारण | (4) अधिकारियों का सहयोग प्राप्त करना ; |
| (5) कार्य की रूपरेखा बनाना ; | (6) आवश्यक समितियाँ स्थापित करना ; |

- (7) आवश्यक निर्देश देना ; (8) उचित अभिप्रेरणा का निर्माण करना ;
 (9) सम्बन्धित तथ्यों को आलेखित करते रहना और (10) कार्य का सतत मूल्यांकन करते रहना ।

The above skill was observed on the above ten components and the related data are presented in Table 4.51

Table 4.51 Organisational Skill

S. No.	Components	Mean	SD	't'-value for df=3
1.	सम्बन्धित जानकारी प्राप्त करना	5.2	1.38	2.81
2.	लोगों से सम्पर्क स्थापित करना	6.5	1.50	1.96
3.	स्थान एवं समय का निर्धारण	6.1	0.96	2.18
4.	अधिकारियों का सहयोग प्राप्त करना	5.9	1.36	1.61
5.	कार्य की रूपरेखा बनाना	4.9	1.65	2.63
6.	आवश्यक समितियाँ स्थापित करना	4.1	1.31	2.14
7.	आवश्यक निर्देश देना	4.8	1.40	—
8.	उचित अभिप्रेरणा का निर्माण करना	5.8	1.77	2.26
9.	सम्बन्धित तथ्यों को आलेखित करना	4.6	1.45	1.61
10.	कार्य का मूल्यांकन करते रहना	4.7	1.73	2.63
Total		52.6	6.1	1.17

The aggregate of mean scores of NFE Centre teachers over this skill was observed to be 52.6 with a S D Value of 6.10. The following components are identified in which the teachers need priority training ;

- (1) Planning an outline of work ;
- (2) Constituting necessary committees ;
- (3) Giving proper directions to others;
- (4) Doing continuous evaluation of the work, and
- (5) Recording relevant data.

4.10 Conclusions Regarding Identification of Skills

The results arrived at in this study are summarized in Table 4.52. On the basis of the statistical findings, the different components of various skills have been identified and are reported under headings 4.11, 4.12 and 4.13.

Table 4.52 Mean, S.D. and t-values of the observed 25 skill of Rajgarh and Bhopal samples.

S. No.	Description of the Skill	Rajgarh Sample			Bhopal Sample		
		Mean	S. D.	t	Mean	S. D.	t
					(Aggregate)		
1.	Skill of introducing a lesson	5.31	5.01	0.89	28.20	4.77	3.79
2.	Skill of demonstrating reading	5.41	5.81	2.01	37.30	8.11	2.20
3.	Skill of developing analytical reading	5.19	4.64	1.81	28.05	4.76	2.27
4.	Skill of developing reading for comprehension	5.23	5.45	0.42	32.65	7.07	2.24
5.	Skill of developing emotional reading	5.07	7.50	0.54	27.85	6.48	2.23
6.	Skill of story telling	4.99	9.29	1.24	—	—	—
7.	Skill of describing	5.40	5.63	0.63	33.20	6.72	2.60
8.	Skill of explaining	5.26	6.16	2.30	41.80	9.48	2.84
9.	Skill of developing reading	5.15	4.71	0.35	32.20	6.04	2.67
10.	Skill of fluency in questioning	5.68	5.07	0.87	31.70	6.65	2.08
11.	Skill of probing questioning	4.99	6.59	0.60	26.40	8.92	3.04
12.	Skill of developing handwriting	4.77	6.40	0.89	25.05	4.99	1.85
13.	Skill of using black-board	5.73	6.47	2.66	38.2	6.73	2.21
14.	Skill of illustrating with examples	4.60	10.29	1.42	38.10	8.38	2.62
15.	Skill of giving classwork	4.72	4.13	1.30	29.0	5.77	2.25
16.	Skill of recapitulation	5.36	6.66	0.59	33.50	7.37	1.82
17.	Skill of giving homework	5.00	8.32	.99	—	—	—
18.	Skill of developing letter-writing	5.12	8.34	0.16	27.4	5.52	1.75
19.	Skill of demonstrating	4.79	7.75	0.45	—	—	—
20.	Skill of supervising classwork	5.60	5.47	0.05	30.05	7.13	2.63

S. No.	Description of the Skill	Rajgarh Sample			Bhopal Sample		
		Mean	S. D.	t	Mean	S. D. (Aggregate)	t
21.	Skill of developing number operations	4.89	8.59	0.80	28.95	6.83	1.82
22.	Skill of class supervision	5.64	6.98	0.05	30.05	7.13	2.63
23.	Skill of developing number concepts	5.43	6.25	0.12	29.60	5.81	2.11
24.	Skill of giving dictation	6.11	5.61	0.79	36.20	6.89	2.54
25.	Organisational Skill	5.21	6.12	1.17	—	—	—

4.11. (a) List of Identified Behaviours with a Mean Value Below 5.0 (Rajgarh Sample)

- (1) Proper selection of activities in the skill of introducing a lesson.
- (2) Facial and other gestures in the skill of demonstrating reading.
- (3) Analysis of proper pronunciation and analysis of proper stress on words in the skill of analytical reading.
- (4) Proper pausing, effective pronunciation and general effectiveness in the skill of developing reading for comprehension.
- (5) Proper gesturing in intonation, dramatisation, selection of relevant story in the skill of story-telling.
- (6) Proper gesturing in the skill of describing.
- (7) Use of linking and closing words, testing students' understanding in the skill of explaining.
- (8) Correcting for posture, speed and rhythm in the skill of developing reading.
- (9) Prompting, refocussing and increasing critical awareness in the skill of probing questioning.
- (10) Correcting for the size of letters, spacing of letters, legibility of handwriting in the skill of developing handwriting.
- (11) Using relevant and interesting examples depicted through proper media and extracting examples from students in the skill of illustrating with examples.
- (12) Selecting and conducting activities with proper directions in the skill of giving classwork.
- (13) Diagnosing type questions by taking into consideration the individual differences in the skill of recapitulation.

- (14) Checking pupils' homework.
- (15) Analysis and practice of alphabet letters in parts or as a whole in the skill of developing writing letters of alphabets.
- (16) Collection, arrangement and use with proper explanations of parts of apparatus of teaching aids in the skill of demonstrating and also asking relevant questions and summarising.
- (17) Use of simple, interesting and environment-based examples in the skill of developing number operations.
- (18) Comparing numbers in the skill of developing number concepts.
- (19) Taking care of individual difficulties in the skill of giving dictation.

4.11. (b) List of Identified Skills Needing Priority in the Training of NFE Teachers : (Rajgarh Sample)

- (1) Skills of developing reading, analysis, comprehension and emotional effects;
- (2) Skill of story-telling;
- (3) Skill of developing handwriting, developing number concepts and number operations;
- (4) Skill of demonstrating;
- (5) Skill of probing questioning;
- (6) Skill of using non-verbal expressions in the classroom.

4.12. (a) List of Identified Behaviours With a Mean Value Below 5.0 of Bhopal Sample :

- (1) Proper use of linking words and phrases; proper use of concluding, terminating words and phrases in the skill of explaining;
- (2) Asking further information / questions; asking redirection questions; asking refocussing questions and increasing critical awareness questions in the skill of probing questioning;
- (3) Formulating examples relevant to the idea or rule; use of interesting examples; using examples by inductive approach; asking students to give examples and sufficient number of examples in the skill of illustrating with examples;
- (4) Correcting the legibility of handwriting in the skill of developing handwriting; and
- (5) Exhibiting facial expressions and other gestures by the teacher in the skill of developing elementary reading.

4.12.1 List of Identified Skills Needing Priority in the Orientation of Teachers of NFE Centres :

- (1) Skill of probing questioning ;

- (2) Skill of story-telling ;
- (3) Skill of illustrating with examples ;
- (4) Skill of demonstrating ;
- (5) Skill of giving dictation ;
- (6) Skill of giving homework ;
- (7) Skill of developing handwriting, developing number concepts and number operations; and
- (8) Skill of using non-verbal expressions in the classroom.

4.13. List of Non-verbal Skills :

The four encouraging behaviours have been identified in this study. These behaviours are : (i) facial expression connoting enjoyment or satisfaction by the teacher; (ii) teacher moves in the class to encourage students; (iii) teacher pats backs of the students; and (iv) teacher shows readiness to respond. The restricting behaviour skills include; : (i) teacher stands engrossed in his own work; (ii) teacher scowls and frowns upon the children; and (iii) the teacher discourages the children. The NFE teachers may practise for maximisation of the encouraging behaviours and minimisation of the restricting behaviours.

CHAPTER V

Development of Related Instructional Material

5.1 Introduction :

One of the objectives of the study was to develop instructional material for the development of teaching skills. Many instructional skills were identified that are considered essential for teaching at the NFE Centres. These skills were then classified into three main clusters, namely, (1) Presentation skills cluster; (2) Developing skills cluster; and (3) Supervisory skills cluster. Under these clusters, a number of sub-skills were identified and material on selected skills was developed. Those skills, of these clusters on which the material has been developed include the following :

- (1) Developmental Skills Cluster: Skills of elementary reading; elementary writing; and skill of number concepts;
- (2) Presentation Skills Cluster: Skills of demonstration and experimentation.
- (3) Supervisory and Organising Skills Cluster ; Skills of Orientation; Organisation of an NFE Centre and Community Cooperation.

The material on the above skills consists of introductory remarks and direction to teachers with illustrative examples of the components of the skills. The material contains lesson transcripts with commentary remarks and some preliminary analysis. The verbal interactions of the NFE Centre teachers with the children were recorded on tape and lesson transcripts prepared. These were further analysed which enabled us to delineate and identify components of the skills.

Another set of material was prepared specially with a view to bringing further clarity in conceptual understanding of the components of the skills. It consists of the meanings of the skills, their components and illustrative examples, derived from the various teaching situations. The skills identified under the various clusters, are dealt with at length in the following pages. It may be added that the material on the non-verbal behaviours was not developed as this study confined itself only to the delineation of their components.

5.2. Skill of Elementary Reading (प्रारम्भिक वाचन कौशल)

प्राथमिक स्तर पर छात्रों को हिन्दी भाषा का ज्ञान देने के लिए अध्यापक विभिन्न प्रकार की गतिविधियाँ करता है। इन गतिविधियों का एक उद्देश्य छात्रों में भाषा के प्रति रुचि विकसित करना भी है। छात्रों में हिन्दी भाषा के प्रति रुचि विकसित करने का एक माध्यम शिक्षक द्वारा किया जाने वाला वाचन है। एक शिक्षक किस प्रकार से अपने वाचन को प्रभावी बनाकर छात्रों में भाषा के प्रति रुचि विकसित कर सकता है, प्रारम्भिक वाचन कौशल कहलाता है। इस कौशल को निम्नलिखित सात घटकों में विभक्त किया जा सकता है :

१. शिक्षक की कक्षा में स्थिति;
२. पुस्तक पकड़ने का सही तरीका;
३. शुद्ध/स्पष्ट उच्चारण;
४. यति एवं विराम का प्रयोग;
५. आरोह - अवरोह;
६. हाव भाव; तथा
७. वाक्य पूर्णता/शुद्धता;

५.२.१ शिक्षक की कक्षा में स्थिति :

वाचन करते समय अनौपचारिक शिक्षा केन्द्र में शिक्षक की स्थिति वाचन को अधिक रसमय बना सकती है। वाचन करते समय नीचे दिये गये बिन्दुओं का विशेष ध्यान रखा जा सकता है।

- (अ) आदर्श वाचन करते समय शिक्षक बच्चों के सामने या मध्य में खड़ा हो।
- (ब) शिक्षक एक कोने में न खड़ा हो जिससे बालकों को शिक्षक की ओर देखने के लिये अधिक न मुड़ना पड़े या बालकों को ऊँची गरदन करके न देखना पड़े।
- (स) शिक्षक एकदम पीछे भी न खड़ा हो जिससे सामने वाले बालकों को मुड़कर न देखना पड़े।

५.२.२ पुस्तक पकड़ने का सही तरीका :

वाचन को प्रभावशाली बनाने के लिए पुस्तक को पकड़ने का तरीका भी सही होना चाहिए। इसके लिये नीचे दिये गए चार बिन्दुओं की ओर ध्यान दिया जा सकता है :

- (अ) पुस्तक को मोड़कर न पकड़ें।
- (ब) आँखों से पुस्तक की दूरी सामान्य रखें।
- (स) झुककर न पढ़ें।
- (द) पुस्तक को नीचे न रखें।

५.२.३ शुद्ध/स्पष्ट उच्चारण :

उच्चारण करते-समय प्रायः दो प्रकार की अशुद्धियाँ पाई जाती हैं। एक का सम्बन्ध व्यंजन ध्वनियों के उच्चारण से है तथा दूसरे का स्वर उच्चारण से। आदर्श वाचन करते समय शिक्षक इस अशुद्धि से बचें। उदाहरण के लिए 'सड़क' को 'सरक' न पढ़ें या 'शक्कर' को सक्कर न पढ़ें। प्रायः 'स' - 'श' या फिर 'र' 'ड़' या 'ड' को उच्चारण करने में गलती होती है। दूसरी अशुद्धि स्वरों के उच्चारण से है। जैसे अनेक बार हम 'मैंने' को 'मैने' या 'सामाजिक' को 'समाजिक' बोलते हैं। इसलिये शिक्षक अपने उच्चारण को पहले सुधारने का प्रयास करें नहीं तो बालक भी उन गलतियों को सीखेंगे।

शिक्षक इस प्रकार से पढ़ें या बोलें जिसे बालक/बालिकायें आसानी से समझ सकें। इसके लिये नीचे दी गई तीन बातों का ध्यान रखना लाभप्रद होगा :

- (अ) इतना धीमे भी न बोलें कि बालकों को सुनाई ही न दे।
- (ब) इतना जोर से भी न बोलें कि आवाज में कर्कशता उत्पन्न हो जाए।
- (स) वाचन में कीमलता एवं स्पष्टता लाई जाए।

५.२.४ यति एवं विराम का प्रयोग (पदबन्ध विश्लेषण) :

पढ़ते समय अर्धविराम, (,) तथा पूर्णविराम (।) का प्रयोग अत्यन्त आवश्यक है। इनका सही उपयोग न करने से अनेक बार वाक्य का अर्थ ही बदल जाता है। उदाहरण के लिये नीचे दिए गए वाक्य में अर्धविराम का स्थान बदलने से अर्थ बदल जाते हैं।

मोहन को रोको मत, जाने दो।

मोहन को रोको, मत जाने दो।

अर्धविराम तथा पूर्णविराम के अतिरिक्त वाक्य को पढ़ते समय कई स्थानों पर स्वतः विराम देना पड़ता है जिससे वाक्य अटपटा न लगे। ऐसे स्वतः विराम को यति कहते हैं।

नीचे दिये गए दो बिन्दुओं की ओर यदि ध्यान दिया जाए तो वाचन को अधिक सारगर्भित बनाया जा सकता है।

- (अ) शिक्षक को यति एवं विराम को ध्यान में रखकर पढ़ना चाहिये।
- (ब) पुस्तक से पाठ पढ़ते समय शिक्षक को पदबन्धों के आधार पर यति का प्रयोग करना चाहिये। यथा निम्नलिखित उदाहरण में पदबन्धों को रेखांकित किया गया है :

विचारों की अभिव्यक्ति ही भाषा है। अगर शिक्षक का उच्चारण शुद्ध और स्पष्ट है तो छात्रों को समझने में आसानी होगी।

५.२.५. आरोह - अवरोह :

पाठ पढ़ते समय एक ही लय में नहीं पढ़ना चाहिये बल्कि भावों के उतार चढ़ाव को भी ध्यान में रखना चाहिये। उदाहरण के लिये नीचे एक ही वाक्य को तीन ढंग से लिखा गया है जिसमें उन्हीं पाँच शब्दों का प्रयोग किया गया है लेकिन उच्चारण में आरोह—अवरोह भिन्न भिन्न होने से उनका आशय बदल गया है।

उदाहरण	आशय
(अ) हाँ, वह आ रहा है।	सूचनामात्र
(ब) हाँ, वह आ रहा है।	केवल 'वह' और कोई नहीं
(स) हाँ ! वह आ रहा है ?	विस्मय सूचक

५.२.६ हाव—भाव :

आरोह—अवरोह के अतिरिक्त वाचन करते समय यदि शिक्षक चेहरे के उतार चढ़ाव (भाव) तथा हाथ आदि की क्रियाओं (हाव) का भी उचित प्रयोग करे तो अच्छे शिक्षक द्वारा किये जाने वाले वाचन में अधिक रुचि लेते हैं। इसलिये शिक्षक को निम्नलिखित तीन बिन्दुओं पर विशेष ध्यान देना चाहिये।

- पाठ के अनुसार ही हाव भाव प्रदर्शित किये जायें।
- वीरता का पाठ पढ़ाते समय चेहरे पर वीरता और उत्साह के भाव हों।
- हाव भाव परिवर्तन इतना अधिक तथा अस्वाभाविक न हो कि स्थिति हास्यास्पद बन जाए।

५.२.७ वाक्य पूर्णता/शुद्धता :

पढ़ते समय यह ध्यान रखना भी आवश्यक है कि आप जो भी बोलें वह वाक्य शुद्ध हो तथा उसका अर्थ पूर्ण हो। अधूरा या अशुद्ध वाक्य कभी न बोलें।

- उदाहरण : (अ) उसे न जाते बनता था। (अशुद्ध)
 (ब) न उसे जाते बनता था। (अशुद्ध)
 (स) उससे जाते नहीं बनता था। (शुद्ध)

इस प्रकार ऊपर दिए गए घटकों का अभ्यास करते हुए प्रारम्भिक वाचन कौशल में दक्षता प्राप्त की जा सकती है।

5.3. Skill of Elementary Writing (प्रारम्भिक लेखन कौशल)

लेखन एक महत्वपूर्ण क्रिया है जिसके द्वारा व्यक्ति अपने विचारों को लिखित रूप में अन्य व्यक्तियों के सामने रखता है। लेखन सामान्य व्यक्ति के जीवन में भी काफी महत्वपूर्ण है, अतः व्यक्ति का लेखन अच्छा होना नितान्त

आवश्यक है। प्रायः यह देखा जाता है कि अधिकांश व्यक्ति साफ नहीं लिख पाते। व्यक्तियों का लेखन साफ हो इसके लिए प्रारम्भिक अवस्था में ही लेखन का अभ्यास कराना आवश्यक है। अनौपचारिक शिक्षा केन्द्रों में शिक्षक निम्न घटकों के अभ्यास द्वारा बच्चों में लेखन के लिये रुचि का विकास कर सकता है।

- (१) स्लेट, तख्ती, कापी, अभ्यास पुस्तिका तथा लेखनी पकड़ने का सही तरीका;
- (२) शब्द विश्लेषण;
- (३) अक्षर की संरचना का विश्लेषण;
- (४) अक्षर के विभिन्न भागों का अभ्यास;
- (५) अक्षर के विभिन्न भागों को मिलाना;
- (६) पूर्ण अक्षर का अभ्यास; तथा
- (७) उक्त क्रियाओं का निरीक्षण

५.३.१ स्लेट तख्ती, कापी, अभ्यास पुस्तिका तथा लेखनी पकड़ने का सही तरीका :

लेखन कार्य का अभ्यास कराने से पूर्व छात्रों को स्लेट, तख्ती, कापी, अभ्यास पुस्तिका तथा लेखनी (कलम) पकड़ने का उचित तरीका अपनाया जाना आवश्यक है। केन्द्र के बालक जमीन पर ही बैठकर काम करते हैं। इसलिए स्लेट तख्ती या कापी को ऊपर किए हुए दायें घुटने पर रखकर लिखा जाना आसान रहेगा। झुककर न लिखे। पेंसिल या कलम को आगे की ओर अंगूठे तथा साथ की दो अंगुलियों के बीच में पकड़कर सुन्दर लेख लिखा जाता है। शिक्षक इस बिन्दु की ओर ध्यान दें तो लेखन अच्छा करवाया जा सकता है।

५.३.२ शब्द का विश्लेषण

अध्यापक जिस अक्षर का ज्ञान छात्रों को कराना चाहें, उस अक्षर से प्रारम्भ होने वाले किसी सरल शब्द को चुनें। शब्द चुनने के बाद उसका अक्षरों में विश्लेषण करें। मान लीजिए कि अध्यापक 'र' अक्षर का ज्ञान छात्रों को देना चाहता है। अध्यापक 'र' से आरम्भ हो रहे सरल शब्द 'रथ' या 'रतन' को चुन सकता है। इन शब्दों का अक्षरों में विश्लेषण निम्न प्रकार किया जा सकता है।

रथ = र, थ

रतन = र, त, न

५.३.३ अक्षर की संरचना का विश्लेषण

शब्द का अक्षरों में विश्लेषण करने के बाद अध्यापक को पहले अक्षर 'र' की बनावट पर बच्चों का ध्यान आकषित करना चाहिए। अक्षर की संरचना को उसके विभिन्न भागों में विभाजित किया जाना लाभप्रद रहेगा।

१
र = -/i/ या २२
३

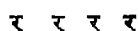
५.३.४ अक्षर के विभिन्न भागों का अभ्यास

अक्षर को उसके विभिन्न भागों में विभाजित करने के बाद छात्रों को क्रमानुसार अलग-अलग भागों में अभ्यास कराना चाहिए।



५.३.५ अक्षर के विभिन्न भागों को मिलाना :

इस क्रिया में अक्षर के अलग-अलग भागों को क्रमानुसार मिलाकर अक्षर की आकृति स्पष्ट करनी चाहिए।



५.३.६ पूर्ण अक्षर का अभ्यास :

इस प्रकार के पूर्ण अक्षर का अभ्यास छात्रों को तब तक कराते रहता चाहिए जब तक वह उसमें कौशल प्राप्त न कर ले।

५.३.७ उक्त क्रियाओं का निरीक्षण :

जब छात्र उक्त गतिविधियों को कर रहे हों, तब अध्यापक को उन गतिविधियों का निरीक्षण करते रहना चाहिए तथा आवश्यकतानुसार छात्रों की सहायता करनी चाहिए।

अनौपचारिक शिक्षा केन्द्रों में पढ़ रहे छात्र खेतों में काम करने वाले या मजदूरी करने वाले होते हैं। हमारा अनुभव यह है कि उन बालकों के हाथों की मांसपेशियाँ इतनी कठोर हो जाती हैं कि उन्हें लिखने में कठिनाई होती है। इसलिए किसी भी अक्षर या शब्द को कापी या स्लेट पर लिखने से पूर्व अंगुली से हवा में, रेत या मिट्टी पर अक्षर का अभ्यास करना अधिक लाभकारी सिद्ध होगा। इस प्रकार से अध्यापक विभिन्न अक्षरों तथा शब्दों का ज्ञान छात्रों को दे सकता है।

5.4 Skill of Number Concept (प्राथमिक गणित शिक्षण कौशल)

अध्यापक की गतिविधियों का वह समूह जिसके द्वारा अध्यापक छात्रों को प्राथमिक गणित का ज्ञान देता है, प्राथमिक गणित शिक्षण कौशल कहलाता है। इस कौशल को निम्नलिखित घटकों में बांटा जा सकता है :

- १) संख्याओं का ज्ञान (मौखिक),
- २) अंकों की पहचान,
- ३) संख्याओं का आरोही क्रम,
- ४) संख्याओं का अवरोही क्रम,
- ५) संख्याओं को लिखने का अभ्यास,

- ६) स्थानीय मानों का ज्ञान,
- ७) स्थानीय मानों का अभ्यास,
- ८) धन (+) का प्रत्यय,
- ९) ऋण (-), भाग ($\div$) तथा ($\times$) गुणा का प्रत्यय ।

५.४.१ संख्याओं का ज्ञान (मौखिक) :

गणित अध्यापन में सबसे पहले बच्चों को संख्याओं का मौखिक ज्ञान देना आवश्यक है। अतः गणित में सबसे पहले छात्रों को संख्याओं का ज्ञान देना चाहिए। संख्याओं का ज्ञान अध्ययन कई विधियों से करा सकता है। परन्तु ज्ञात से अज्ञात की ओर चलना अधिक लाभकारी सिद्ध होगा। संख्याओं का ज्ञान देने के लिए स्थानीय वस्तुओं के उदाहरण दिये जा सकते हैं जिससे बच्चे अपने पर्यावरण का प्रयोग करके ही संख्याओं का ज्ञान सीख सकें।

- उदाहरण :-
- १) तुम्हारे कितने भाई हैं ?
 - २) तुम्हारी कितनी बहनें हैं ?
 - ३) तुम्हारे खेत में कितने पेड़ हैं ?
 - ४) तुम्हारे यहां कितनी गाय हैं ?
 - ५) तुम्हारे पड़ोसी के यहां कितनी भैंसें हैं ?
 - ६) तुम्हारे यहां कितने बैल हैं ?

५.४.२ अंकों की पहचान :

छात्रों को संख्याओं का मौखिक ज्ञान देने के पश्चात् उन्हें १ से ९ तक के अंकों की पहचान कराई जाए। अंगुली के संकेतों द्वारा बालकों को समूह में विभाजित करके गांव के पेड़, प्रौधों, पशुओं, कुओं आदि के उदाहरणों की सहायता से अंकों का ज्ञान तथा उनके लिए प्रयुक्त किए गये संकेतों (१, २, ३, ४, ५ इत्यादि) की पहचान छात्रों को कराई जा सकती है। पुनः इस क्रिया का बार-बार अभ्यास करके यह निश्चित कर लिया जाए कि छात्र अब अंकों की पहचान करने लगे हैं। बच्चों को खेल-खेल में खेलने वाली गोलियों की मदद से भी अंकों व संख्याओं का ज्ञान आसानी दिया जा सकता है। इस कार्य को अधिक रोचक बनाने के लिये गत्ते या लकड़ी के अंकों के कांड भी बनाये जा सकते हैं।

५.४.३ संख्याओं का आरोही क्रम :

जब छात्रों को अंकों का व संख्याओं का ज्ञान व पहचान हो जाय तब उन्हें बढ़ते हुए क्रम में संख्याओं का ज्ञान देना चाहिए। ऐसा करने से बालकों को कम तथा अधिक की अवधारण, समझने में मदद मिलेगी (१, २, ३, ४, ५, ...) यह क्रम बार-बार अभ्यास द्वारा भलीभांति हो जाता है। अभ्यास व्यक्तिगत तथा सामूहिक रूप

से भी कराया जा सकता है। छात्रों को आरोही क्रम में संख्याओं का ज्ञान देते समय उनके सामने स्पष्ट कर दिया जाए कि आगे आने वाली संख्या पहले आई हुई संख्याओं से बड़ी होती है।

जैसे :- २१, २२, २३, २४, २७, ३० इत्यादि।

५.४.४ संख्याओं का अवरोही क्रम :

आरोही क्रम में संख्याओं का ज्ञान देने के बाद छात्रों को अवरोही क्रम (उल्टी गिनती) में भी संख्याओं का ज्ञान दिया जाए। उल्टी गिनती के अभ्यास के समय इस बिन्दु पर जोर दिया जावे कि हर आगे आने वाली संख्या पहले वाली संख्याओं से छोटी होती है। जैसे ६८, ६६, ६४, ८४, ६४ इत्यादि।

५.४.५ संख्याओं को लिखने का अभ्यास :

अंकों व संख्याओं के ज्ञान व पहचान तथा उन्हें आरोही अवरोही क्रम में सिखाने के बाद छात्रों को अंकों व संख्याओं को लिखना सिखाना आवश्यक है। लिखने का काम अंकों तथा संख्याओं की पहचान करवाते समय साथ साथ भी करवाया जा सकता है। अनौपचारिक शिक्षा केन्द्र में क्योंकि ६ वर्ष या इससे अधिक उम्र के बच्चे आते हैं जो कि घर व खेतों में काम करते हैं अतः उनकी मांसपेशियां इतनी कठोर हो जाती है कि लिखने में परेशानी होती है। इसलिये पेन या पेंसिल से लिखने से पहले छात्रों को अंगुलियों की सहायता से रेत पर अंक लिखना सिखाया जावे। पुनः जब पेन या पेंसिल द्वारा कागज पर लिखवाना हो तो सबसे पहले अंकों को उनके सरलतम रूपों में विभाजित कर अंकों को लिखना सिखाया जाए।

उदाहरण :-

$$\begin{aligned} 1 &= 1 \\ 3 &= - / 0 \\ 4 &= 1-1 \\ 5 &= -1) \\ 7 &= 1 - / \\ 9 &= 0 \backslash \\ 8 &= 0 0 \end{aligned}$$

अंकों के विभिन्न भागों का अभ्यास करवा कर उनको परस्पर मिलाना सिखलाया जाये जिससे पूरे अंक को लिखने का ज्ञान बालक को हो जावे। इसके पश्चात पूर्ण अंकों को लिखने का अभ्यास करवाया जावे।

५.४.६ स्थानीय मानों का ज्ञान :

अंकों को लिखना सिखलाने के पश्चात अध्यापक द्वारा स्थानीय मानों की जानकारी देना लाभप्रद सिद्ध होगा। इकाई, दहाई, सैकड़ा आदि प्रत्ययों की जानकारी समयानुसार दी जाए।

उदाहरण के लिए १५ में ५ का अंक इकाई है तथा एक का अंक दहाई है। संख्याओं को विभाजित करके भी यह बात बतलाई जा सकती है।

$$१५ = १० + ५; ३७ = ३० + ७; ६८ = ६० + ८$$

इससे यह स्पष्ट है कि संख्या १५ में १ का अर्थ एकबार दस, संख्या ३७ में ३ का अर्थ तीन बार दस अर्थात् तीस तथा संख्या ६८ में ६ का अर्थ छः बार दस अर्थात् साठ है। इन संख्याओं में ५, ७ तथा ८ का अर्थ ५, ७ तथा ८ ही है।

इसी प्रकार से बालकों को सैकड़ों की अवधारणा भी समझाई जा सकती है। उदाहरण के लिए २३६ की संख्या को नीचे दिये गये ढंग से लिखा जा सकता है परन्तु इस प्रकार का विश्लेषण धन (+) की अवधारणा के बाद बताना अधिक लाभप्रद रहेगा।

$$२३६ = २०० + ३० + ६$$

उपरोक्त संख्या में २ का अर्थ दो बार सौ अर्थात् २००, ३ का अर्थ तीन बार दस अर्थात् तीस तथा ६ का अर्थ ६ ही है।

५.४.७ स्थानीय मानों का अभ्यास :

स्थानीय मानों की जानकारी के बाद छात्रों को स्थानीय मानों का अधिक से अधिक अभ्यास करना आवश्यक है। इस प्रकार से अभ्यास करते समय स्थानीय वस्तुओं की सहायता अधिक प्रभावकारी रहेगी। कितने घर, कितने आदमी, कितने पेड़ आदि। खेल-खेल द्वारा ही इन मानों का अभ्यास कराया जा सकता है।

५.४.८ धन (+) का प्रत्यय :

अंकों व संख्याओं की जानकारी व स्थानीय मानों के अभ्यास के बाद छात्रों को धन (जमा) के प्रत्ययों से अवगत कराना चाहिए। धन के प्रत्ययों को उदाहरण के माध्यम से बच्चों को बताना अधिक आसान व लाभकारी होगा। उदाहरण देते समय नीचे दिये गये तीन बिन्दुओं की ओर विशेष ध्यान देना चाहिए :

- (i) उदाहरण बालकों के पर्यावरण पर आधारित हों। ऐसी घटनाओं द्वारा जो कि बच्चों के दैनिक जीवन में नित्य घटती हों, धन को प्रत्यय को समझाना चाहिए।
- (अ) कांच की गोलियों से खेलते समय—पहले आपके पास पांच गोलियां थी, आपने रामू की तीन गोलियां जीत ली, अब आपके पास कितनी गोलियां हैं ?
- (ब) गुल्ली डण्डे के खेल में—पहली बार आपने दस डण्डे बनाए, और दूसरी बार में आपने १५ डण्डे बनाए। बताओ आपने कुल कितने डण्डे बनाए ?
- (ii) उदाहरण स्पष्ट हों।

ऐसे उदाहरणों का प्रयोग किया जाय जो स्पष्ट हों तथा बच्चों की समझ में आसानी से आ जाएं।

(ii) उदाहरण सरल से कठिन की ओर हों।

(अ) धन के प्रश्नों का अभ्यास कराते समय अध्यापक को इस बात का विशेष ध्यान रखना चाहिए कि पहले बहुत ही सरल उदाहरण लें जिनमें केवल ६ तक के अंकों का ही प्रयोग हो।

$$\begin{array}{r} 3 \\ + 5 \\ \hline \hline \end{array} \quad \begin{array}{r} 4 \\ + 3 \\ \hline \hline \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline \hline \end{array} \quad \begin{array}{r} 9 \\ + 5 \\ \hline \hline \end{array}$$

(ब) जब छात्र सरल प्रश्नों को भलीभांति कर लें तब उनसे कुछ कठिन प्रश्नों का प्रयोग किया जा सकता है जिनमें कोई हासिल लेने की आवश्यकता न हो।

$$\begin{array}{r} 5 \\ + 3 \\ \hline \hline \end{array}; \quad \begin{array}{r} 99 \\ + 25 \\ \hline \hline \end{array}; \quad \begin{array}{r} 95 \\ + 88 \\ \hline \hline \end{array}; \quad \begin{array}{r} 63 \\ + 25 \\ \hline \hline \end{array}; \quad \begin{array}{r} 329 \\ + 658 \\ \hline \hline \end{array}$$

(स) अब ऐसे उदाहरण चुने जायं जिनमें हासिल तो लिया जाय परन्तु शून्य न आए।

$$\begin{array}{r} 23 \\ + 85 \\ \hline \hline \end{array} \quad \begin{array}{r} 37 \\ + 56 \\ \hline \hline \end{array} \quad \begin{array}{r} 58 \\ + 35 \\ \hline \hline \end{array}$$

(द) इसके बाद ऐसे उदाहरण भी लिये जा सकते हैं जिनमें दो अंकों वाली संख्या में केवल एक अंक जोड़ा जावे।

$$25 + 3 = \dots\dots; \quad 65 + 7 = \dots\dots; \quad 86 + 5 = \dots\dots,$$

(इ) ऊपर दिये गये सभी उदाहरण करवाने के पश्चात् ऐसे उदाहरण लिए जायं जिनके योग में इकाई या दहाई के स्थान पर शून्य आती है।

$$\begin{array}{r} 23 \\ + 27 \\ \hline \hline \end{array}, \quad \begin{array}{r} 4 \\ + 56 \\ \hline \hline \end{array}, \quad \begin{array}{r} 235 \\ + 585 \\ \hline \hline \end{array},$$

इस प्रकार सरल प्रश्नों से जटिल प्रश्नों की ओर बढ़ते हुए धन के प्रत्यय की आसानी से समझाया जा सकता है। प्रत्यय को छात्र जब भलीभांति सीख जाएं तब पुस्तक में दिये गये प्रश्नों को करवा दिया जावे।

५.४६ ऋण, भाग, तथा गुणा के प्रत्यय :

ठीक धन के प्रत्यय के समान ही इन प्रत्ययों को भी छात्रों को सिखलाया जाए। शिक्षक की गतिशीलता, सोचने की शक्ति तथा कर्मठता द्वारा कठिन से कठिन अवधारणा को भी आसान बनाया जा सकता है।

5.5 Skill of Observation (अवलोकन कौशल) :

अवलोकन एक प्रकार का सूक्ष्म निरीक्षण है। अवलोकन का अभिप्राय यह है कि बालक अपने आस पास के पर्यावरण तथा घर में या घर से बाहर घटने वाली घटनाओं को बारीकी से देखे जिससे घटनाओं या आसपास की वस्तुओं के बारे में अधिक से अधिक जिज्ञासा बालक में पैदा हो सके। अवलोकन ही वह कौशल है जिसके द्वारा अनौपचारिक केन्द्र का अध्यापक बालकों में वैज्ञानिक दृष्टिकोण पैदा कर सकता है।

यदि शिक्षक बालक में सूक्ष्म अवलोकन का कौशल पैदा कर देता है तो बालक स्वतः अनेक घटनाओं के कारण खोजने की कोशिश करेंगे। जिससे वैज्ञानिक दृष्टिकोण पनपने में सहायता मिलेगी। बालकों से किसी भी स्थान, प्रयोग या वस्तु का अवलोकन करते समय नीचे दिये गये बिन्दुओं पर ध्यान देना लाभप्रद सिद्ध होगा।

- (१) अवलोकन पर ले जाने से पूर्व केन्द्र के बालकों को अध्यापक द्वारा सामान्य परिचय दिया जाए।
- (२) अवलोकन के समय बालकों को किन-किन बिन्दुओं को देखना है इसकी जानकारी दी जाए।
- (३) अध्यापक बालकों को अवलोकन लिपिबद्ध करने के लिये कहे।

कालम (अ)	कालम 'ब'
गतिविधियां	उपलब्धियां
(१) अनौपचारिक केन्द्र शिक्षक बालकों को गांव का भ्रमण करवायेगा। गांव में पाये जाने वाले विभिन्न कार्यों का एवं घरों का अवलोकन करवायेगा। जैसे कच्चा, पक्का या घास फूस से बना मकान। (२) घरों में सुविधाओं का अवलोकन (अ) रसोई घर की व्यवस्था। (ब) पशु बांधने का स्थान। (स) पानी (पीने का) की व्यवस्था। (द) गंदे पानी का निकास। (इ) शयन कक्ष।	घरों की जानकारी घरों में सुविधाएँ तथा घरों की स्वच्छता

- (३) परिवार
 (अ) परिवार में सदस्यों की संख्या ।
 (ब) माता-पिता, पति-पत्नि, भाई-बहन तथा पड़ोसियों के परस्पर सम्बन्ध

बच्चों की संख्या और परिवार की स्थिति रिश्ते की जानकारी

इस कौशल के विकास के लिए इसी प्रकार दूसरे स्थानीय उदाहरण भी लिये जा सकते हैं ।

5.6 Skill of Demonstration (प्रदर्शन कौशल) :

प्रदर्शन का कौशल वह कौशल है जिसके माध्यम से अनौपचारिक शिक्षा केन्द्र का शिक्षक छात्रों को विभिन्न बिन्दुओं की जानकारी वास्तविक रूप में दिखलाना चाहता है ।

प्रदर्शन के लिये सावधानियाँ :

- (१) अध्यापक जिन बिन्दुओं का प्रदर्शन करना चाहता है प्रदर्शन से पहले समूह के सामने उनका सामान्य परिचय दे ।
- (२) प्रदर्शन की वस्तु का आकार ऐसा हो कि जिसे सभी छात्र देख सकें ।
- (३) प्रदर्शन के पश्चात, प्रदर्शन के विभिन्न बिन्दुओं पर खुली चर्चा की जाए ।

प्रदर्शन कौशल के विकास के लिए नीचे कुछ उदाहरण लिये गये हैं । कालम 'अ' के अन्तर्गत गतिविधियाँ दी गई हैं तथा कालम 'ब' के अन्तर्गत अपेक्षित उपलब्धियाँ दर्शाई गई हैं ।

कालम 'अ'	कालम 'ब'
गतिविधियाँ	उपलब्धियाँ
१ एक टार्च लेकर उससे गैद पर रोशनी डालना तथा गैद को घुमाते रहना । गैद पर प्रकाश वाले भाग की तुलना दिन तथा अंधेरे भाग की तुलना रात से की जा सकती है ।	रात और दिन बनने की अवधारणा स्पष्ट होगी ।
२ (अ) पानी को गरम करने के भाप बनते हुये दिखलाना (ब) धूप और तेज हवा में कपड़े डालकर बाष्पन की गति का प्रदर्शन करना ।	पानी के बाष्पन और उसकी गति को समझ सकेगा ।
३ अध्यापक बालकों को गावों के खेतों में ले जाकर विभिन्न प्रकार के खेतों को बतलावेगा जैसे पत्थर वाले खेत, काली मिट्टी	बालक फसलों के प्रकार और मिट्टी के सम्बन्ध में जान सकेंगे ।

वाले खेत । दोनों खेत मालिकों से उपज की बातचीत करेगा ।
अलग-२ खेतों में अलग-२ फसल अच्छी होती है । बरसात में
पाले बंधे खेतों को दिखलावेगा तथा नालियों में पौधों के
आसपास मिट्टी का जमाव दिखलायेगा ।

४- (अ) चुम्बकों का आपस में विकर्षण और आकर्षण बतलाना

(ब) चुम्बक से लोहे की वस्तु को चिपकाकर दिखलाना ।

(स) चुम्बक का स्वतन्त्र रूप से लटकाने पर उत्तर दक्षिण
दिशा में ठहरना ।

५- (अ) कैंची, सरीता, पच्चड़ तथा झूले के उत्तोलकों को
दिखलाना ।

(ब) विभिन्न प्रकार की मशीनों को दिखलाना ।

(स) तरह-तरह के बीजों के प्रकार तथा विभिन्न प्रकार के
बीजों का विखराव का प्रदर्शन अनौपचारिक शिक्षा
केन्द्र का शिक्षक करेगा ।

६- (अ) मिट्टी में ह्यूमस पाया जाता है । मिट्टी को पानी में
बोलकर तैरते पदार्थों का प्रदर्शन करना ।

७- बैलगाड़ी के पहिये में घर्षण को कम करने के लिए उसकी
धुरी में तेल लगाया जाता है ।

८- ठण्डे पानी में शक्कर कम घुलनी है । संतृप्त गरम घोलों को
ठण्डा करने पर ठोस पदार्थ के प्राप्त होने की क्रिया के प्रदर्शन
के लिये शिक्षक गन्ने के रस से गुड़ और राब बनने की प्रक्रिया
गांव के कोल्हू पर ले जाकर दिखलायेंगे ।

९- अध्यापक तरह तरह के जानवरों के बिलों तथा घोंसलों को
बच्चों को खेतों तथा जंगलों में ले जाकर दिखलायेगे ।

१०- अध्यापक कच्चे खाये जा सकने वाले पदार्थों को साफ करके
तथा साफ पानी से धोकर तथा अच्छी तरह चबाकर खाये
जाने के फायदे पर चर्चा करेगे ।

कच्चे पालों और वृक्षों द्वारा मिट्टी के
बचाव को समझ सकेंगे ।

चुम्बकीय गुण की जानकारी ।

उत्तोलकों की जानकारी ।

तरह-२ के पेड़ पौधों का प्रकृति में पाये
जाने वाले पौधों की जानकारी ।

पैदावार में इसका महत्व तथा उपयोग ।

घर्षण को कम करने के तरीके के विषय में
जानकारी ।

रवे बनने की प्रक्रिया को समझने की जान-
कारी ।

जानवरों तथा पक्षियों के निवास की
जानकारी ।

कच्ची खायी जा सकने वाली विभिन्न
वस्तुओं को साफ करके तथा धोकर खाने
की जानकारी ।

११- केन्द्र शिक्षक बालक को तालाब पर ले जाकर साबुन के उचित प्रयोग से कपड़े धोना सिबलाएंगे। तालाब तथा कुएं के हल्के और भारी पानी में अन्तर साबुन के घोल का इस्तेमाल करके दिखलाया जाएगा। हर रोज नहाने घौने, शरीर तथा कपड़े साफ रखने के फायदे भी बतलाये जायेंगे।

१२- चन्द्रग्रहण तथा सूर्यग्रहण की अवधारणा केन्द्र शिक्षक टाच तथा दो गेदों द्वारा दिखलाएगा।

१३- उष्मा के संचार की अवधारणा को शिक्षक खाना पकाने के बर्तनों के गरम होने या किसी लोहे की छड़ को अंगीठी में गरम करने की क्रिया द्वारा दिखलाएगा। पदार्थों के सुचालक तथा कुचालक स्वभाव को धातुओं, रबर कांच तथा लकड़ी से बनी वस्तुओं पर उष्मा के प्रभाव द्वारा दिखलाया जाएगा।

१४- थल, जल और नभ में पाये जाने वाले विभिन्न जानवरों के बारे में जानकारी के लिए बालकों को गांव से बाहर खुले मैदान, खेतों या आसपास के अभ्यारण्यों में ले जाना या चित्रों द्वारा दिखलाना।

१५- मानव शरीर, पशु पक्षियों की शारीरिक बनावट की जानकारी स्वयं की शारीरिक संरचना, आसपास के जानवरों की शारीरिक बनावट तथा चित्रों और माडलों द्वारा दिखलाना।

शरीर तथा कपड़े साफ रखने के बारे में जानकारी।

सूर्यग्रहण और चन्द्रग्रहण के कारण समझ कर अंधविश्वास दूर हो सकेगा।

उष्मा के संचार तथा सुचालक और कुचालक पदार्थों के बारे में जानकारी तथा उनके दैनिक जीवन में उपयोग।

आसपास के जानवरों के विषय में जानकारी।

स्वयं के शरीर तथा आसपास के जानवरों की शारीरिक बनावट के विषय में जानकारी।

5.7 Skill of Experimentation (प्रायोगिक कौशल)

विज्ञान शिक्षण में प्रयोगों का बहुत महत्व है। जिस अवधारणा को हम सिद्धांत रूप में पढ़ते हैं उसकी पुष्टि प्रयोगों द्वारा की जाती है। प्रयोग करते समय किसी एक अवयव को नियमित तथा शेष अवयवों में परिवर्तन किया जाता है। सूक्ष्म निरीक्षण करते हुए प्रयोग के फलस्वरूप होने वाली परिवर्तनों की तालिका बनाई जाती है तथा तालिका से परिकल्पना की पुष्टि की जाती है।

प्रायोगिक कौशल में दक्षता प्राप्त करने हेतु नीचे दिये गये घटकों पर विशेष ध्यान दिया जाए। केन्द्र शिक्षक इन सब घटकों की चर्चा बालकों से करे तथा इस बात का विशेष ध्यान रखे कि बालक प्रयोग करते समय इन घटकों पर अमल कर रहे हैं या नहीं।

१. उद्देश्य स्पष्टीकरण : प्रयोग करने से पहले प्रयोग का उद्देश्य बालकों को स्पष्ट होना चाहिए।

२. सावधानियां :

प्रयोग करते समय अपनाई जाने वाली सावधानियों का विशेष ध्यान रखा जाए। इस बात का भी खयाल रखा जाय कि किस अवयव को नियन्त्रित करना है तथा किसमें परिवर्तन करना है।

- ३- प्रयोग सामग्री : प्रयोग में आने वाली सामग्री की लिस्ट पहले ही तैयार कर ली जाए तथा वे सब वस्तुएं प्रयोग करने से पहले ही इकट्ठी कर ली जाएं।
- ४- समय बोध : प्रयोग में लगने वाले समय का बोध यदि सम्भव हो सके तो अच्छा रहेगा।
- ५- परिकल्पना : प्रयोग करते समय परिकल्पना भी कर ली जाए तथा प्रयोग द्वारा इसकी पुष्टि की जाए।
- ६- सूक्ष्म निरीक्षण : प्रयोग के समय होने वाले परिवर्तनों को बहुत ही बारीकी से अध्ययन करना अत्यन्त आवश्यक है। पानी दृष्टि द्वारा किये गये निरीक्षण के फलस्वरूप ही कई नई अवधारणाओं का विकास सम्भव हो सका है।
- ७- रिकार्डिंग : प्रयोग के समय एक कापी अवश्य साथ में रखी जाए। होने वाले परिवर्तनों को यथा समय उचित ढंग से लिपिबद्ध किया जाए।
- ८- परिणाम परिचर्चा : प्रयोग के फलस्वरूप होने वाले परिवर्तनों या परिणामों पर खुल कर चर्चा की जाए तथा उसके कारणों की जांच की जाए। प्रयोग के फल होने की दिशा में उसके सम्भावित कारणों का पता लगाया जाए तथा उसको एक बार फिर किया जाए। यह कार्यवाही बालकों में वैज्ञानिक दृष्टिकोण विकसित करने में सहायक सिद्ध होगी।
- ९- सीमायें तथा कमियां : प्रयोग करते समय कुछ ऐसे बिन्दु होते हैं जिन्हें हम पूर्ण रूप से नियन्त्रित नहीं कर सकते। प्रयोग करने के पश्चात् इन कमियों का विशेष रूप से उल्लेख किया जाए तथा आगे किये जाने वाले प्रयोगों में इन कमियों को दूर करने के प्रयास किए जायें।

5.8 Skill of Organisation (संगठनात्मक कौशल) :

अनौपचारिक शिक्षा केन्द्रों को एक शिक्षक किस प्रकार से सुचारु रूप से चलाता है, संगठनात्मक कौशल के अन्तर्गत आता है। संगठनात्मक कौशल के निम्नलिखित घटक हैं :

- (१) ग्रामीणों से सम्पर्क स्थापित करना तथा पालकों को केन्द्र में बालकों को भेजने के लिये प्रेरित करना;
- (२) बाल गणना करना;
- (३) आत्मनीयता एवं समर्पिता;
- (४) शाला समय का निर्धारण;
- (५) शासन से सहयोग प्राप्त करना;
- (६) वर्षभर का कैलेंडर तैयार करना;

- (७) शाला विकास समिति एवं पालक संघ का गठन;
- (८) राष्ट्रीय पर्वों को मनाना;
- (९) चक्र का निर्माण; और
- (१०) शाला अभिलेख तैयार करना;

५.८.१ ग्रामीणों से सम्पर्क स्थापित करना (वाकपटुता एवं मृदु व्यवहार):

अनौपचारिक शिक्षा केन्द्रों को सुचारु रूप से चलाने के लिए बच्चों को अनौपचारिक केन्द्रों पर लाना मुख्य बिन्दु है और बच्चों को केन्द्र पर लाने के लिये उनके अविभाज्यकों से मधुर सम्बन्ध कायम करना उससे भी अधिक आवश्यक है। ग्रामीणों से मधुर सम्बन्ध स्थापित करने के लिए अनौपचारिक शिक्षक को वाकपटुता तथा मृदु व्यवहार का उपयोग करना चाहिए ताकि वह अपनी बात को ग्रामीणों तक ठीक ढंग से तथा आसानी से पहुँचा सके जिससे पालक प्रेरित होकर अपने बच्चों को अनौपचारिक शिक्षा केन्द्रों पर भेजें। इसे स्पष्ट करने के लिए हम मान लेते हैं कि मोहनलाल एक अनौपचारिक शिक्षक है जो एक नए गांव में अनौपचारिक शिक्षा केन्द्र चलाने के लिए प्रयत्नशील है। मधुर सम्बन्ध स्थापित करने की विधि जानने के लिए आइये हम मोहनलाल की गतिविधियों पर ध्यान दें।

मोहनलाल अपने नियुक्ति वाले ग्राम गांधीग्राम में पहुँचता है। समीप खड़े कुछ व्यक्तियों से वह आदरपूर्वक नमस्कार करता है। ग्रामीण भी प्रत्युत्तर में नमस्कार करते हैं। उन व्यक्तियों में शिष्टाचार की वार्ता शुरू होती है। अब मोहनलाल पूछता है "पटेल साहब आपका गांव तो बहुत अच्छा है। यहाँ के सरपंच साहब कौन हैं? ग्रामीण ने हँसकर उत्तर दिया- "हां-हां क्यों नहीं। श्री रामनारायण जी इस गांव के सरपंच हैं।" शिक्षक ने पुनः पूछा- "क्या आप मुझे उनका घर बतला सकेंगे।" इस पर ग्रामीण ने मुस्कराते हुए पूछा- कहिए आपको उनसे क्या काम है। इस पर शिक्षक ने कहा मेरी नियुक्ति आपके ही ग्राम में हुई है।" इस पर ग्रामीण ने हँस कर कहा- "हां, हां कहो, मैं ही इस गांव का मुखिया हूँ चलो, घर चलो। घर चलकर बैठेंगे और आराम से बातें करेंगे।" मोहनलाल के उक्त व्यवहार से स्पष्ट होता है कि पहले वाक्य में ही गांव के बारे में अच्छे शब्द बोलकर उसने गांव के मुखिया को प्रभावित कर लिया। पटेल का बड़ा पुत्र शिक्षक को नमस्कार करता है एवं खटिया पर दूरी लाकर बिछाता है। इसके बाद थोड़ा सा गुड़ और दो ग्लास पानी लाता है। तथा दोनों को सम्मान पूर्वक देता है। दोनों गुड़ खाकर पानी पीते हैं। शिक्षक पुनः अपनी ओर से वार्ता प्रारम्भ करता है। वह पूछता है अपने गांव की आबादी कितनी है? पटेल साहब उत्तर देते हैं कि अपने गांव की आबादी लगभग ३०० है।

शिक्षक- इसमें बालकों की संख्या कितनी होगी?

पटेल- यही कोई ४० के आसपास।

शिक्षक- क्या आपके पास गांव की मतदाता सूची होगी?

पटेल- हां है तो ! आपको क्या काम है ?

शिक्षक- "मुझे आपके गांव के ६ से १४ वर्ष तक के बालकों की गिनती करनी है। पर मतदाता सूची में तो इक्कीस वर्ष से बड़े मतदाताओं का ही नाम है उससे आप छोटे बच्चों की गणना कैसे करेंगे ?" पटेल ने आश्चर्य से पूछा।

शिक्षक- "अरे भाई, उससे मुझे पूरे घरों का ज्ञान हो जायेगा। मैं तो इस गांव में नया-नया व्यक्ति हूं। आपको मेरे कार्य में सहयोग देना होगा तथा पालकों को बच्चों को शाला भेजने के लिये प्रेरित करना होगा।"

पटेल- "हां,- हां, क्यों नहीं मास्टर जी। शाम को लगभग सभी गांव वाले मेरे यहां अलाव पर आयेंगे, तभी उन सबसे आपकी पहचान करा देंगे और आपके काम में मदद करने के लिए कह देंगे।"

मोहनलाल तथा पटेल साहब के बीच हुए उक्त वार्तालाप से स्पष्ट होता है कि मोहनलाल ने पटेल साहब का विश्वास भी अर्जित कर लिया है। पटेल साहब को उनके पद की याद दिलाते हुये मोहनलाल ने नम्रतापूर्वक सहयोग मांगा जिसे पटेल साहब ने खुशीपूर्वक स्वीकार कर लिया तथा शाम को अलाव पर सभी ग्रामीणों से मुलाकात कराने का वायदा भी करा दिया। अब हम देखेंगे कि मोहनलाल किस प्रकार ग्रामीणों से अलाव पर बातचीत करता है।

रात्रि के आठ बजे के लगभग सभी ग्रामी पटेल के अलाव पर आज ताप रहे हैं, और बातें कर रहे हैं। इतने में मास्टर जी को साथ लिये हुए पटेल साहब आते हैं। सभी ग्रामीण उनसे राम-राम कहते हैं। पटेल भी राम-राम का प्रत्युत्तर देते हैं। साथ ही मास्टर जी भी दोनों हाथ जोड़कर विनम्रता से नमस्कार करते हैं। इस प्रकार सभी ग्रामीण अलाव पर बैठ मिल जाते हैं। पटेल ने कहा ... 'देखो भाई, अपने यहां मोहनलाल जी मास्टर होकर आये हैं। अब ये अपने गांव में ही रहेंगे और गांव के बच्चे, बच्चियाँ को पढ़ायेंगे। इनका स्कूल भी अलग तरह का होगा। हमसे भी जहां तक बन सके सारे गांव वालों को इनकी मदद करना चाहिये। एक ग्रामीण ने कहा कि 'दो जून खाने को तो मिलत नाहीं, छोरा-छोरियन को कैसे पढ़न भेजें ?

ग्रामीण के प्रश्न का उत्तर देते हुए मोहनलाल कहता है- हां भाई। आपकी बात सही है, और आपने एक बहुत बड़ी बात कही है, कि हम अपने छोरा-छोरियन को कैसे भनवे भेजें। हम सबको मिलकर ही इस बात पर विचार करना होगा। मैं भी गांव का रहने वाला हूं। आपका गांव तो मेरे गांव से भी बड़ा है तथा अच्छा भी है। हमारे गांव में तो बहुत गरीबी है। सो मैं जब १० साल का था तो गांव छोड़कर शहर चला गया। वहां पर एक चाय की दुकान पर बरतन धोता था तथा देखा करता था कि बाबू लो- वहां चाय पीने आते थे। अपने बच्चों की पढ़ाई की बातें करते थे, कोई कहना था मेरा बाबा पढ़ने गया है कोई कहता था कि मेरा बाबा पढ़कर अब डाक्टर या बाबू बनने वाला है। इन बातों को सुनकर मुझे लगा कि अगर मैं भी पढ़ लिख लूं तो मैं भी बाबू बन सकता हूं। इसलिए एक दिन मैंने एक बाबू से पढ़ने की इच्छा जाहिर कर दी। वो भला बाबू था। अगले ही दिन से उसने मुझे एक किताब लाकर दे दी। तथा हर रोज १०-१५ मिनट मुझे पढ़ाने लगा। उसी बाबू ने मुझे पहले पांचवीं तथा बाद में आठवीं क्लास अनौपचारिक शिक्षा केन्द्र से पास कराई। अगर मैं चाहता तो मुझे शहर में ही कहीं छोटे बाबू की नौकरी मिल जाती परन्तु फिर मुझे

अन्दर से आवाज आई कि मेरे जैसे कितने ही बच्चे गांव में ऐसे हैं जिन्हें कि पढ़ने के लिये कोई बाबू नहीं मिलता। इसलिये मुझे गांव वालों को पढ़ाना चाहिए। बस इसी बात को लेकर मैंने सरकार से प्रार्थना की कि गांव में स्कूल खोल दें। सरकार ने मेरी बात मान ली परन्तु साथ ही साथ यह भी कहा कि स्कूल के लिये स्थान, व बच्चे तथा अन्य बातों का इन्तजाम आपको ही करना पड़ेगा। तो भाईयों मैंने निश्चय कर लिया है कि हम और आप ने जो जिदगी गरीबी में बिताई है, एक सरकारी चिट्ठी को पढ़ने के लिये हम दूसरे गांव वालों के पास जाते हैं। अब अपने बच्चों को अपने जैसा नहीं होने देंगे। हम उन्हें पढ़ना लिखना सिखायेंगे जिससे कि वो किसी दूसरे पर निर्भर न हों। अतः हम सब अपने बच्चों के भविष्य के लिये उन्हें पढ़ना लिखना जरूर सिखावेंगे।

सभी ग्रामीण मोहनलाल की बातों से प्रेरित होते हैं, तथा अपने बच्चों को पढ़ाने लिखाने के लिये मोहनलाल से प्रार्थना करने लगते हैं। तभी एक अन्य ग्रामीण पूछता है—मास्टर जी हम सब आपकी बातों से सहमत हैं परन्तु यह बताओ कि हमारे बच्चे हमारे साथ काम करने जाते हैं। फिर भला हम उन्हें पढ़ायेगे कब।

शिक्षक—हां, भाई यह एक गम्भीर समस्या है। हम अपने बच्चों को काम पर जाने से भी मना नहीं कर सकते वरना काम पूरा नहीं होगा और उन्हें पढ़ना भी जरूरी है, फिर क्या करें। अरे हां, कभी तो बच्चे खाली रहते होंगे ?

ग्रामीण—“रात में कुछ टेम मिलत है। दिन भर तो खेत में ही जाई है।” अब पटेल साहब आपई बताओ हम का करें।

पटेल—नहीं भाई अपन अपने स्कूल का टेम ऐसो रखेंगे कि जे में घण्टा दो घण्टा को सबै टेम मिलत हो।

ग्रामीण—हां, तब तो मोड़ा-मोड़ियन को भेज सकत।

शिक्षक—भाईयों मैंने पटेल साहब से गांव की मतदाता सूची ले ली है, जिसकी सहायता से, मैं सवेरे ७-८ बजे के करीब आपके यहां ६ वर्ष से १४ वर्ष के बालक-बालिकाओं की गिनती करके उनके नाम रजिस्टर में लिख लूंगा। आप कृपया मेरी इतनी मदद करें कि आप घर पर ही मिलें। और अपने परिवार के बालकों की सही-सही जानकारी मुझे दे दें। हां ! एक बात और भी है। एक ऐसी जगह चाहिए जहां गांव के सभी बच्चे एक जगह इकट्ठे बैठ सकें और अपनी पढ़ाई शुरू कर सकें।

पटेल ने कहा :- अपने पास ही लम्बी चौड़ी दलान है। उसमें अपना गांव का और दो गांव का छोरा छोरी और भी बैठ सकें। अब रात अधिक हो गई है इसलिए अब चलते हैं।

मोहनलाल कहता है :- तो ठीक है भाई। हम कुल बालकों की गिनती करेंगे और अपना केन्द्र बालकों की सुविधा के अनुसार लगाया करेंगे।

(उक्त पूरी वार्ता में आपने देखा कि मोहनलाल ने किस प्रकार अपने व्यवहार तथा वाक्पटुता द्वारा सब ग्रामीणों का मन मोह लिया तथा उन्हें अपने-अपने बच्चों को पढ़ाने के लिए प्रेरित भी कर लिया। साथ-साथ अनौपचारिक शिक्षा केन्द्र के लिए पटेल साहब के दलान को निश्चित कर लिया।

ग्रामीणों से मधुर सम्बन्ध बनाने के बाद अब केन्द्र शिक्षक को यह मालूम करना है कि इस गांव में कितने बच्चे अनौपचारिक शिक्षा केन्द्रों पर आने योग्य हैं। इस कार्य के लिए शिक्षक योजना बनाता है तथा उसके अनुसार ही कार्य करता है। आइये अब देखिए मास्टर मोहनलाल मास्टर जी कैसे इस काम को पूरा करते हैं।

दूसरे दिन मोहनलाल प्रातः कालीन कार्यों से निवृत्त होते हैं। बुधवार का दिन है। ग्रामीणों को नरसिंहगढ़ हाट करने जाना है। आज उन्हें खेत-खलिहानों में नहीं जाना है। अतः पटेल साहब भी अध्यापक जी के साथ हो लेते हैं। अध्यापक जी के पास ग्राम की मतदाता सूची, कलम और एक रजिस्टर है जो उन्होंने कल ही तैयार किया है तथा जिसमें वाही गई जानकारी निम्नानुसार है।

गली संख्या	घर नंबर	मुखिया का नाम	घर के सदस्यों की संख्या	६ से १४ वर्ष के बच्चों के नाम	आयु	विविध विवरण

प्रारम्भ में दोनों गोपीलाल के घर जाते हैं साथ में पीछे-पीछे कुछ बच्चे भी हो जाते हैं। गोपीलाल इनसे राम-राम करता है और दलान में बिछी हुई चटाई पर बैठने का आग्रह करता है। “कहिये कैसे आना हुआ?” गोपीलाल ने कहा।

अरे भाई—ये मास्टर साहब अपने गांव के घरों के बालकों की गिनती करना चाहते हैं ताकि उन्हें खाली समय में कुछ सिखाया जा सके।

“हां—अपने तो भैया दो मोड़ा और तीन मोड़ियां हैं।”

ठीक, वैसे आपके घर में कुल कितने व्यक्ति हैं ?

सात।

अच्छा तो अब आप बच्चे-बच्चियों के नाम और आयु बतलाईये।

हां, हां, वयों नहीं भैया, बड़ी मोड़ी होई यही कोई १३ बरस की बा से छोटी एक मोड़ा।

उम्र के साथ नाम भी बतलाओ।

हा तो बड़ी मोड़ी का नाम सुगनी। बा भागीरथ १० बरस का होगा। बा से छोटी एक मोड़ी फिर है जे की नाम है सुन्दरी। बा ८ आठ बरस की होगी। बा से छोटी फिर एक मोड़ा गोपाल है, वो ५ बरस को जई अगन में हो जाएंगे। सबसे छोटी मोड़ी राधा है बा ३ साल की होगी।

शिक्षक ने ५ बालकों में से ३ बालक-बालिकाओं के नाम उम्र सहित अपनी पंजिका में दर्ज कर लिए और गोपीलाल को धन्यवाद देकर व नमस्ते करके आगे चल दिए।

इसी प्रकार शिक्षक, पटेल और एक दो अन्य व्यक्तियों ने मिलकर ग्राम की ६ से १४ वर्ष के बालकों की बालगणना गणना पूरी की।

५.८.३ आत्मीयता एवं समरूपता :

बालगणना करने के पश्चात् अब मोहनलाल का यह दायित्व हो जाता है कि वो ऐसे बालकों से मिले जिनके बच्चे केन्द्रों पर आने योग्य हो। इसके लिए मोहनलाल के लिए आवश्यक है कि वह ऐसा व्यवहार करे जिसमें आत्मीयता झलकती हो। मोहनलाल इस कार्य को निम्न प्रकार से करता है :

रात्रि को साढ़े सात बजे शिक्षक उन घरों में जाते हैं, जहाँ ६ वर्ष से १४ वर्ष तक के बालक-बालिकाएँ उपलब्ध हैं। प्रारम्भ में जाते ही शिक्षक रतीराम हरिजन के यहाँ जाते हैं। रतीराम से नमस्कार करते हैं तथा बैठ जाते हैं।

शिक्षक वार्ता प्रारम्भ करते हुए कहते हैं, भाई रतीराम जी आपके पुत्र कैलाश एवं पुत्री सुखिया को कल से पटेल की दलान में भेजना।

अरे मास्टर जी हम तो हरिजन हैं, हमें पटेल की दलान में कौन बैठने देगा। और छोरा-छोरिन के पास सिलेट पट्टी भी तो नहीं है।

अरे मैं सब जानता हूँ, रतीराम जी। हरि को भजे सो हरि का होई, जात-पात पूछे नहीं कोई। भगवान ने तो हम सबको समान बनाया है। देखिए न, वही दो आँखें, वही दो हाथ, वही दो पांव आपके और वही मेरे। अब देखिए आप और मुझमें फर्क क्या है? चांद-सूरज, हवा-पानी आदि कोई भी तो हममें भेदभाव नहीं करते। फिर हम क्यों भेदभाव करें। यह भेदभाव कोरा पाखण्ड है। मोहनलाल की चर्चा के दौरान गांव के दो चार लोग आ जाते हैं तथा मास्टर जी के तर्क से प्रभावित होकर गर्दन हिलाते हैं। इतने में कैलाश पानी लेकर आ जाता है। शिक्षक पानी पीते हैं और बच्चों को अनौपचारिक शिक्षा-केन्द्र भेजने हेतु रतीराम से अनुरोध करते हैं। रतीराम अपने बालकों को केन्द्र भेजने हेतु सहमत हो जाता है। इसी प्रकार शिक्षक अनेक घरों में सम्पर्क स्थापित करते हैं और गांव के वातावरण में शीघ्र ही इतने घुल-मिल जाते हैं कि वे स्वयं भी इसी गांव के बासिदा लगने लगते हैं।

५.८.४ शाला का समय :

इस प्रकार मोहनलाल केन्द्र पर क.फो बच्चे लाने में सफल हो जाना चाहते हैं, परन्तु अब उसके सामने शाला समय की समस्या है, शिक्षक के पास छात्र-छात्राएँ भी हैं और शाला लगने का भी पर्याप्त स्थान है। शिक्षक एवं गांव वाले चाहते हैं कि शाला समय ऐसा रहे जबकि ग्राम के बाल-बालिकाएँ फुसंत में हों। दिन का बच्चों का समय तो खेत और खलियानों के कामों में व्यतीत हो जाता है। सवेरे और सांझ का समय मवेशियों में बीत जाता है। इस प्रकार रात्रि का प्रथम प्रहर ही इसके लिए ठीक समय हो सकता है। रात्रि को सोने से दो घण्टे पूर्व से बालक पढ़ें और रात्रि तक पढ़ने रहें ताकि सोते समय जो कुछ पढ़ा है उस पर विचार कर सकें। अतः पढ़ाई का

समय सभी की सुविधानुसार रात्रि साढ़े सात से नौ बजे तक रखा गया तथा इसकी सूचना सभी ग्रामवासियों को दे दी गई।

५.८ प्रशासन से सहयोग प्राप्त करना:

अनीपचारिक शिक्षा केन्द्रों को सुचारू रूप चलाने के लिए शिक्षक का यह भी एक प्रमुख कार्य या कर्त्तव्य है कि वह अपने वरिष्ठ अधिकारियों से अपने मधुर सम्बन्ध और रखे अच्छा सम्बन्ध स्थापित करें ताकि केन्द्र के किसी भी काम में प्रशासकीय सहयोग के बिना कोई कार्य शिथिल न हो जाए या बन्द होने की सुरत में न आ जाए। जैसे हम किसी केन्द्र पर टाट पट्टी का उद्योग चला रहे हैं तथा हमारे पास कच्चे माल का अभाव उत्पन्न हो गया है। यदि हमारे सम्बन्ध अधिकारियों से मधुर होंगे तो हम समय-समय पर अपनी आर्थिक पूर्तियों को शासन से शीघ्र पूरा करवा सकेंगे। और केन्द्र पर उद्योग की दिशा हमेशा अच्छी लगती रहेगी। अतः उपरोक्त गुण भी शिक्षक में होना परमावश्यक है। इसके लिये अध्यापक को समय-समय पर अपने अधिकारियों को प्रगति के बारे में सूचना देते रहना चाहिए तथा अच्छे सम्बन्ध कायम रखने चाहिये।

५.८.१ वर्ष भर का कैलेंडर तैयार करना :

केन्द्र को सुचारू रूप से चलाने के लिए शिक्षक को वर्ष भर का कैलेंडर तैयार करना चाहिए। इस कार्य हेतु शिक्षक जून माह में ही अपनी शाला का वार्षिक कैलेंडर तैयार करेगा। सर्व प्रथम शिक्षक यह देखेगा कि १ जून से ३१ मई तक कुल कितने कार्य दिवस हैं। इन कार्य दिवसों में स्थानीय परिस्थितियों के अनुसार यथोचित परिवर्तन किया जा सकता है। फिर वह प्रतिमाह के कार्य दिवसों की समस्या ज्ञात करना शुरू करेगा। कार्य दिवसों के मान से पूरे पाठ्यक्रम का नियोजन करेगा। पाठ्य विभाजन में मुख्य दो बातों का ध्यान रखा जाना चाहिए कि पाठ्यक्रम का प्रथम भाग अध्यापन से सम्बन्धित हो तथा दूसरा भाग कला कौशल से सम्बन्धित हो। कला कौशल में स्थानीय क्राफ्ट रखे जा सकते हैं। यथासंभव क्राफ्ट ऐसे हों जिनसे शाला पर अधिक भार न पड़ता हो। पाठ्यक्रम में खेलकूद मनोरंजन आदि पर भी ध्यान दिया जाना चाहिए। शाला में मनाई जाने वाली महापुरुषों की जन्म तिथियां तथा त्योहारों आदि पर भी ध्यान दिया जाए। स्थानीय त्योहारों, मेलों आदि का भी उचित समावेश करना उपयोगी हो सकता है।

एक प्रयास और भी किया जाना चाहिए कि जो त्योहार जिस माह में आते हों उसी में उन्हें पढ़ाया जाना चाहिए। इस प्रकार दिवाली के अवसर पर दिवाली, २६ जनवरी के अवसर पर गणतन्त्र दिवस, १५ अगस्त पर स्वतन्त्रता दिवस एवं होली पर होली का पाठ या निबन्ध पढ़ाया जाना प्रासंगिक होगा। ग्राम के आगपास के वातावरण से भी छात्रों को परिचित कराया जाना चाहिए, जैसे मेले, हाट, पोस्ट-ऑफिस, अस्पताल, ग्राम पंचायत, नगरपालिका आदि के कार्यों से बालकों को अवगत करवाया जा सकता है। आज के युग में यह भी आवश्यक है कि बालकों को सड़कों पर चलने के नियमों की उचित जानकारी रहे।

५.८.७ शाला विकास समिति एवं पालक संघ का गठन :

शाला का कार्य उचित रीति से चलाने के लिए शिक्षक को शाला विकास समिति एवं पालक संघ का गठन

किया जाए। इसके लिए सर्वप्रथम शिक्षक द्वारा पालकों को बुलवाकर एक मीटिंग का आयोजन किया जाए जिसमें पालकों की राय से ग्राम के प्रमुख या किसी अन्य सम्मानित व्यक्ति को शाला विकास समिति का अध्यक्ष चुना जाए। शिक्षक इस समिति का पदेन सचिव रहेगा। सर्वानुमति से शिक्षा में रुचि रखने वाले ग्रामीणों में से ही दो या तीन सदस्य चुन लिये जाए। इस प्रकार स्थापित समिति के साथ केन्द्र शिक्षक को समय-समय पर चर्चा करते रहना चाहिए। केन्द्र के संचालन में आने वाली कठिनाईयों के निवारण के लिए भी शाला विकास समिति अत्यन्त महत्वपूर्ण कार्य कर सकती है। यहां पर इस बात का जिक्र कर देना उचित होगा कि केन्द्र शिक्षक गांव की दलगत राजनीति से दूर रहते हुए अपनी शाला का विकास करे।

५.८.८ राष्ट्रीय पर्वों का मनाना :

शाला में राष्ट्रीय त्यौहार जैसे गणतन्त्र दिवस, स्वतन्त्रता दिवस, गांधी जयन्ती, बाल-दिवस, सैनिक-दिवस, सुभाष जयन्ती, आदि केन्द्र पर मनाए जाएं। यह कार्य ग्राम के सम्मानित व्यक्तियों की अध्यक्षता में किया जाना चाहिए। खेलकूद एवं सांस्कृतिक आयोजन, भी इन-इन अवसरों पर किये जाने चाहिए। ग्राम मण्डलियों का भी आयोजन इस अवसर पर किया जा सकता है। इन आयोजनों के पश्चात यथा संभव बालक बालिकाओं को पुरस्कृत किया जाना चाहिए। इससे बालकों में विभिन्न कार्यों के प्रति उत्साह एवं प्रेरणा जागृत होगी व शाला का सम्मान भी बढ़ेगा। समाज शालामय और शाला समाजमय होगी। छात्रों को इन अवसरों पर आदर्श नागरिकता के गुणों की प्राप्ति होगी और वे अच्छे नागरिक बनकर समाज में सम्मान प्राप्त कर सकेंगे। इससे छात्रों में राष्ट्रीय भावना का उदय भी होगा और वे राष्ट्र निर्माण में अपनी भूमिका अदा कर सकेंगे।

५.८.९ समय चक्र का निर्माण :

शिक्षक को शाला संचालन हेतु समय चक्र का निर्माण करना चाहिए। यह कार्य छात्रों की रुचि के अनुकूल एवं समयानुकूल होना चाहिए ताकि शाला में बालकों की रुचि के अनुसार कार्य किया जा सके। शाला में भी छोटे-छोटे कार्यानुभवों/उपयोगों का प्रावधान भी रखा जाना चाहिए। यथा संभव ऐसे कार्यानुभव उद्योग चुने जायें जिनसे केन्द्र पर कम से कम आर्थिक बोझ पड़े और छात्र इन उद्योगों में इतने प्रवीण हो सकें कि अपने भावी जीवन में जीविकोपार्जन कर सकें। ग्रामीण उद्योग में चटाई बनाना, टोकरी बनाना, झाड़ू बनाना, कागज के लिफाफे बनाना, चाक बनाना, रस्सी बनाना, टाट पट्टी बनाना आदि कार्य किये जा सकते हैं। बालकों के आस-पास फैले हुये पर्यावरण का भी पाठ्यक्रम में समावेश किया जाये जो बालकों के लिए उपयोगी सिद्ध हो सके। इसमें खेतों तथा आस पास के जंगलों, नदी नाले इत्यादि की सैर को शामिल किया जा सकता है जिसके द्वारा फसलों, मिट्टी, खाद तथा पेड़ पौधों के बारे में लाभप्रद जानकारी दी जा सकती है। पास में स्थित डाकघर के कार्य, चिकित्सालय, ग्राम पंचायत के कार्य, आदि बच्चों को ले जाकर बतलाए जा सकते हैं। यदि आस-पास कोई मेला भरता हो तो वहां छात्रों को ले जाकर मेले की विस्तृत जानकारी भी दी जा सकती है। केन्द्र के समय चक्र का निर्माण करते समय इस बात का ध्यान रखा जाए कि समय चक्र औपचारिक शाला की भांति स्थायी न हो जिससे इसमें यथानुसार परिवर्तन किया जा सके।

५.८.१० शालेय अभिलेख तैयार करना :

शाला संचालन में कुछ अभिलेखों की आवश्यकता प्रतीत होती है जिनमें शाला का सम्पूर्ण रिकार्ड पंजीबद्ध होता है। शिक्षा के उच्च अधिकारी जब कभी शाला निरीक्षण करते हैं तब उन्हें इन सब अभिलेखों की आवश्यकता होती है। इन अभिलेखों से निरीक्षणकर्त्ता को यह पता लग जाता है कि शाला में कितना काम हो चुका है और कितना कार्य होना शेष है। आज का क्या कार्य होना है? शाला में कितने छात्र हैं? उनमें से कितने छात्र प्रतिदिन उपस्थित होते हैं। शिक्षक ने उपस्थिति बढ़ाने के लिए क्या प्रयास किये हैं। ग्रामीणों से कितना सहयोग प्राप्त किया। शाला में अब तक कुल कितनी आय एवं स्वयं हुआ है। शाला में उत्सव त्यौहार मनाये जाते हैं या नहीं? यदि मनाये जाते हैं तो किस त्यौहार पर क्या-क्या कार्य हुआ इसका भी पता अभिलेखों से चल जाता है। संक्षेप में हम यह कह सकते हैं कि शाला का अभिलेख शाला का दर्पण है। यह अभिलेख शाला की प्रगति में भी सहायक सिद्ध होता है। अनौपचारिक शिक्षा केन्द्र में निम्न अभिलेखों का रखा जाना लाभप्रद हो सकता है।

१. छात्र प्रवेश पंजिका :

इस पंजिका में छात्र की संपूर्ण जानकारी अंकित होती है। जैसे प्रवेश क्रमांक, छात्र का नाम पिता का नाम, जन्म तिथि, शाला प्रवेश दिनांक, जाति, व्यवसाय, निवास, आदि तथा यदि कोई विशेष बात हो तो वह भी अंकित की जाती है।

२. छात्र उपस्थित पंजिका :

यह छात्रों की उपस्थित पंजिका होगी जिसमें प्रतिदिन छात्र की उपस्थिति का अभिलेख होगा। यदि छात्र अवकाश पर है या बीमार है तो उसका भी अभिलेख पंजिका में होगा।

३. शिक्षक उपस्थिति पंजिका :

शिक्षक प्रतिदिन अपनी उपस्थिति के हस्ताक्षर उपस्थिति पंजिका पर करेगा और हर हफ्ते के अन्त में इस पंजिका पर पटेल या सरपंच के प्रति हस्ताक्षर कराएगा।

४. शाला की आय-व्यय पंजिका :

चूंकि ये शालाएं काफी छोटी होती हैं इस कारण अधिक लेखा पत्रकों को न रखकर केवल एक आय-व्यय पंजिका रखना ही पर्याप्त होगा। शिक्षक उसमें ग्राम पंचायत से प्राप्त धनराशि, चन्दा या शासन से प्राप्त धनराशि का हिसाब किताब रखेगा। यदि राशि शाला विकास के माध्यम से प्राप्त हुई है तो उस पर शालेय विकास समिति के अध्यक्ष के हस्ताक्षर भी करा लिये जाने चाहिए एवं उनकी राय से उक्त राशि का व्यय किया जाना चाहिए।

५. केन्द्र निरीक्षण पंजिका :

कोई व्यक्ति केन्द्र का निरीक्षण करने आए तो उन्हें टिप्पणी लिखने हेतु यह पंजिका उपलब्ध रहेगी। यदि निरीक्षण कर्ता केन्द्र की प्रगति हेतु कोई सुझाव दे तो उनपर शिक्षक द्वारा अमल किया जाना चाहिये।

६. केन्द्र मिटिंग पंजिका :

इस पंजिका में शाला विकास समिति, विभिन्न सलाहकार समितियों एवं बालसभा तथा उत्सवों और त्यौहारों के अभिलेख अंकित किए जा सकते हैं।

७. स्टॉक एवं वितरण पंजिका :

पासन या जनता से जो भी वस्तुएं प्राप्त हों उन्हें इस पंजिका में दर्ज किया जाना चाहिये। इसके कुछ पृष्ठ छोड़कर वितरण पंजिका का काम भी लिया जा सकता है। यदि कोई ऐसी वस्तु हो जिसे पंजिका में बढ़ाकर बच्चों को वितरण करना हो तो वितरण पंजिका में उसे दर्ज किया जाना चाहिये और छात्रों या पालकों से प्राप्त के हस्ताक्षर करा लेने चाहियें। साथ ही स्टॉक पंजिका पर उसका व्यय दिखा दिया जाना चाहिये।

८. छात्र प्रगति अभिलेख :

प्रत्येक छात्र की प्रगति का अभिलेख अनौपचारिक शिक्षा केन्द्र का सबसे महत्वपूर्ण अभिलेख है। इसमें प्रत्येक छात्र का नाम अंकित किया जाना चाहिये। जिस विषय में जितनी जितनी इकाईयां पूर्ण कर लें, पंजिका में नाम के समक्ष इसका उल्लेख: हर हफ्ते किया जाना चाहिये। यदि कोई छात्र पर्याप्त प्रगति नहीं कर पाता है तो शिक्षक को उसकी कमजोरी का पता लगाकर उसके साथ विशेष प्रयास करने चाहियें।



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